Modern Packaging

FEBRUARY 1943

Their container needs come ***FIRST***

DOWN COME the paratroops, especially armed, clothed, and provided with food to help them carry out their task.

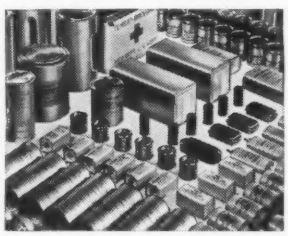
Their food is carried in metal containers. It is sufficient for three meals. It is known in the U. S. Army as the "K" or "parachute ration."

Huge quantities of metal containers for ration "K" are needed by our armed forces. Tremendous quantities of other metal containers are being demanded by the Army and Navy —by Lend-Lease Authorities, and by civilians behind the lines.

In addition to helping maintain vital food supplies, metal cans have also been selected as the ideal containers for many direct war items. They carry blood plasma transfusion kits . . . bandages . . . explosives . . . oil, and many other war essentials.

American Can Company machine shops are also making specified tools and war munitions.

So when the question arises concerning the lack of metal cans, it should be remembered that with Canco—as with every other manufacturer—the fighting forces come first.



Farseeing government planning is doing a splendid job in conserving our national tin supply and helping to solve the metal container problem. American Can Company was among the first to take an active part in this conservation program. And, we are grateful to all those manufacturers who have cooperated with us, and with the war effort, by accepting substitute containers for the duration.

★ ★ ★

Canco fully appreciates the problems facing your industry today. This company is constantly endeavoring to produce suitable containers from the materials now available; in fact, some such containers are already in use. Indeed, a large part of our research and experimental efforts are being devoted to this vital task. ***American Can Company, 230 Park Avenue, New York City.***

FIRST CLASS
PERMIT No. 2656
(Sec. 510, P.L.& R.)
NEW YORK, N. Y.

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Packaging Catalog

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New York, N. Y.

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First Class Permit No. 2656 (Sec. 510, P. L. & R.), New York, N. Y.

MODERN PACKAGING

122 East 42nd Street

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122 EAST 42nd STREET,
NEW YORK, N. Y.

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Simplicity Endures! Anything that has this magic element is destined to go far . . . to last long. For simplicity is sincerity without show, truth without elaboration. The best loved paintings, books and songs are the plain, homely, old fashioned kind. The most practical tools and machines are free of intricate details. This is especially true of the continuous thread screw cap. Based on one of the oldest mechanical principles, old when first used by Archimedes, it is the most widely used of all closures for glass packages. The C T Cap, by Phoenix, is a modern application of this ancient principle. Precision made, standard, uniform, adaptable, dependable, convenient, decorative, economical . . . but, above all, of utmost simplicity.

PHOENIX METAL CAP CO.
CHICAGO: 2444 W. Sixteenth Street
BROOKLYN: 3720 Fourteenth Avenue

Modern Packaging

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VOLUME 16 **FEBRUARY 1943** NUMBER 6

GOOD-BY FRILLS

For nearly two years we've been telling our readers about how to pull in their belts to cope with shortages and restrictive orders. Now one comes that hits us where you'll all see it. This is the last time for the duration that Modern Packaging will appear in its present format. Next month we will be in war uniform, in line with the Government's ruling to cut down paper consumption. Our page sizes will be reduced; our paper stock will be lighter in weight. Our illustrations may be fewer and smaller to save metal. We don't like it, but if it means getting the war over sooner, that's all that counts. Maybe our book won't look so nice. Perhaps, if we have to use smaller type, it won't be quite so easy to read—but you may be sure that it will contain each month the most significant news of the packaging field in so far as space and equipment for publishing permit. Because we know what this saving means to our country, we say "Good-by Frills" gladly.

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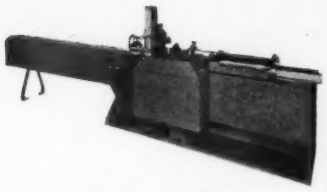
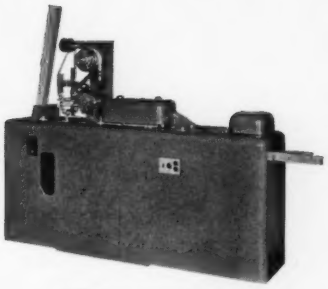
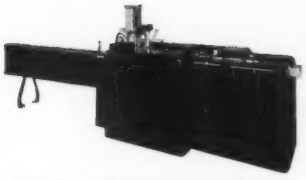


Cartoning machine for bottled medicinal products



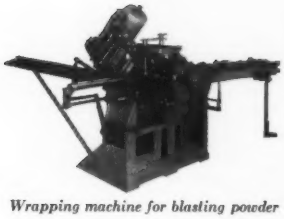
Cellophane wrapping machine



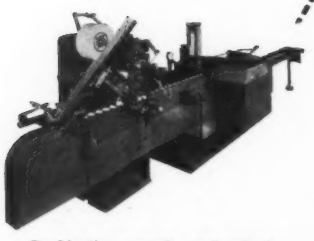
Cartoning machine for packaging chocolate

TODAY... tools for victory

TOMORROW... even finer packaging machines



Wrapping machine for blasting powder



Combination wrapping-and-cartoning machine for packaging gauze bandages

Users of Redington packaging equipment would find it most interesting to visit our factory where many changes have taken place since Pearl Harbor. Packaging machinery is still being manufactured on high priority, but most of our efforts are being concentrated on turning out the tools needed for Victory.

Among other things, we are manufacturing a large quantity of grinding machines—units needed in practically every war plant today—a machine that in an hour or two or three will grind a cutter, a reamer, or a drill from a piece of solid bar stock. This machine is built to extreme accuracy . . . the spindles are ground to within plus or minus .0001 of an inch . . . the beds are scraped, the ways scraped and fitted . . . a truly fine machine precision-manufactured.

Another proof of Redington quality—a tribute to the skill of Redington engineering and manufacturing.

Yes, Redington is learning today to do tomorrow's job better . . . learning to produce even finer packaging machines.

F. B. REDINGTON CO. (Est. 1897) 110–112 So. Sangamon St., Chicago, Ill.

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PACKAGING MACHINES

FOR CARTONING • WRAPPING • SPECIAL PACKAGING

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KALAMAZOO VEGETABLE PARCHMENT COMPANY
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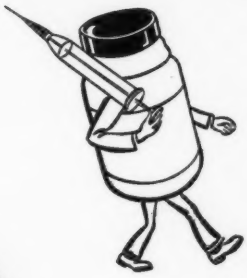

with "Cel-O-Seal" guarding this local anaesthetic

"CEL-O-SEAL" cellulose bands have many wartime jobs—protecting the drug and medicinal products which in turn protect health and keep us strong. A function of the "Cel-O-Seal" Cap or Band is to secure the closure firmly in place. It is tough and sturdy to *seal purity in,* to *seal danger out.* It guards against evaporation, leakage and contamination. It provides individuality and attractiveness. It often makes a "second label" for the bottle or jar.

DU PONT
REG. U. S. PAT. OFF.

CEL-O-SEAL
TRADE MARK
BANDS

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

SOLD BY

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ARMSTRONG CORK COMPANY
GLASS & CLOSURE DIVISION
Lancaster, Pennsylvania

I. F. SCHNIER COMPANY
683 Bryant Street, San Francisco, California

Don't Sacrifice Eye Appeal in Your Wartime Package!

Switching from the old familiar package to a wartime successor? Before you go too far in your plan-making, be sure to give due consideration to one of the first merchandising principles of packaging . . . that of eye appeal.

You're right . . . a package should be functional, practical, protective, economical. And today it must be manufactured of materials that are available. But . . . eye appeal needn't be sacrificed to meet the wartime restrictions. Beauty and utility can be combined today as always!

Reflect the high quality of your product with high-quality packaging. If you are confronted with a packaging change-over, above all retain brand identity. Preserve those recognition features familiar to your customers, even though you find it necessary to alter the style or shape of your package.

Perhaps we've given you an idea here. It may be that we can assist you in your particular problem. Why not consult us? Our staff of packaging experts stands ready to serve you.

As one of the world's largest producers of packaging and high-quality lithographed materials, we invite you to toss that problem of yours into the collective lap of our designers, engineers and chemists. Maybe your problem isn't as tough as you think it is!

Stecher-Traung—pioneers in Full Color Lithography and leaders in the field for over three-quarters of a century—can give you efficient service. Our unique "Gang Run" Service assures you of real savings.

Contractors to the Government—War Work Comes First!

For over 75 years—headquarters for high-quality, colorful, lithographed labels, box wraps, packets, folding boxes, cartons, merchandise cards and envelopes, displays and advertising materials.

FREE!

Write today for your free copy of our 28-page book —"The Value and Patriotic Use of Full Color."

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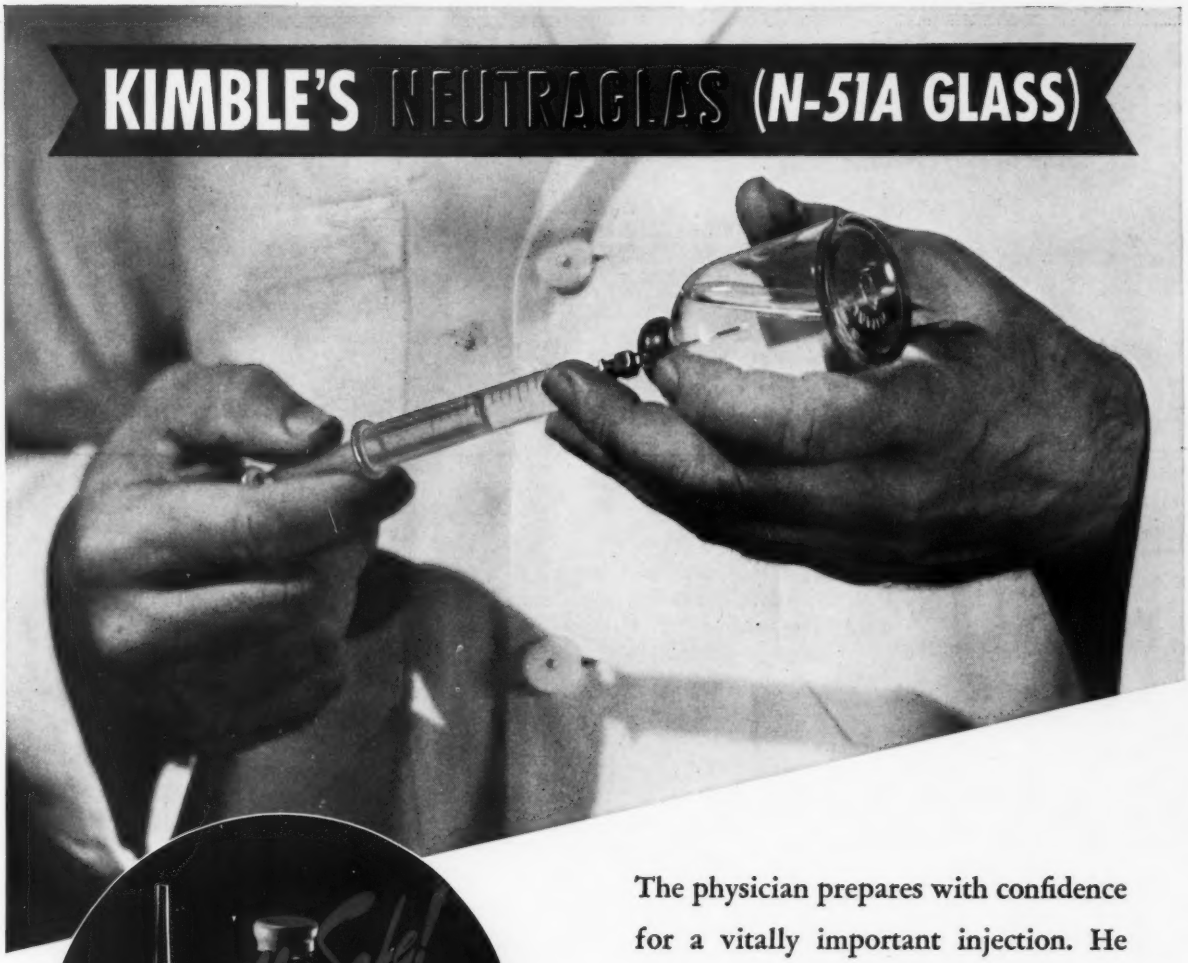
KIMBLE'S NEUTRAGLAS (*N-51A* GLASS)



Standardize NOW *on Kimble Ampuls, Serum Vials, Serum Bottles and Clinical Glass Containers made of* NEUTRAGLAS *(N-51A Glass) — CLINICALLY SAFE.*

The physician prepares with confidence for a vitally important injection. He knows the reliability of the manufacturer. He knows the protection afforded by the Kimble NEUTRAGLAS container, which resists deterioration and solvent action regardless of length of storage. This safeguarding of quality the medical profession recognizes as vital.

• • • *The Visible Guarantee of Invisible Quality* • • •

KIMBLE GLASS COMPANY • • • VINELAND, N. J.

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The New 1943 PACKAGING CATALOG

THE WARTIME MUST FOR PACKAGERS

THE hard-learned wisdom of a year at war will be distilled into the 1943 *wartime* Packaging Catalog. The facts that are important: what materials are available; what materials can be used for which type of package, which type of product; what the physical and chemical properties of packaging materials are; how they can be converted, and into what shapes and sizes; what packaging machinery is available and how existing equipment can be converted; topped off by the only complete and up-to-date Directory of Suppliers to the more than 200 goods and services consumed by the field—of this will the contents of the new Packaging Catalog be compiled.

The 1943 Packaging Catalog will be a fact-book, a handbook, a guidebook through the chaos of packaging at war. It will contain only the pertinent information—the data that will help you plan for *here and now*, with as many hints for the future as you want.

Like many a Catalog user, you will lock the new edition in your desk where you can be sure it will be handy for consultation. The book will be so valuable, so *necessary* you'll need several copies—for your salesmen, your assistants, your branch offices. And it makes a useful and appreciated gift for your customers.

Available on direct sale only—no free or complimentary distribution

order now at $2.50 (only ½ of former price)

Publishers cannot guarantee fulfilling orders placed after publication

1943 PACKAGING CATALOG

Packaging Catalog Corporation

122 East 42nd Street New York City

DRY PACKAGING FOR A [illegible] HELL!

Heat . . . sweat . . . rain! A ceaseless downpour turns the winding trail into a quagmire along which native carriers slog with their loads. On either side the jungle's rotting undergrowth soaks up the rain, and the heat turns it into a heavy, fetid vapor. *In all this world is one last thing dry?*

Yes! In those loads the natives carry are small but vital packages that mean comfort and health to our jungle fighting men: salt tablets — toilet paper — sutures — sulpha-drugs — dehydrated foods — every item snug and dry.

These small packaged products are dry and uncontaminated because the Quartermaster Corps of the United States Army foresaw the need for strong, light-weight, *moisture-proof* packaging, and because such organizations as U. S. Envelope Company had the facilities and the "know-how" to quickly manufacture such heat-sealing and moisture-proof packages. In war, as in peace, these facilities are available immediately and always. What is your problem?

U·S·E *protective packaging*

UNITED STATES ENVELOPE COMPANY ☆ CONTAINER DIVISION ☆ SPRINGFIELD, MASSACHUSETTS

N-30 J-32 A-682 C-39 D-62

ATTENTION!

Yes sir, these STOCK BOTTLES *certainly do have* ATTENTION VALUE

In times like these, it's a wonderful help for you to be able to draw upon Swindell's great assortment of smartly designed stock bottles. The five illustrated are "headliners"--but there are many more to choose from. Write for our catalogue.

Illustrated above:
N-30: ⅛ oz. to 8 oz.
J-32: ½ oz. to 16 oz.
A-682: ⅛ oz. to 4 oz.
C-39: ½ oz. to 16 oz.
D-62: ½ dr. to 8 oz.

SWINDELL BROS.
BALTIMORE, MARYLAND
200 FIFTH AVENUE, NEW YORK
ROBERTO ORTIZ—HAVANA CUBA

When you think of bottles think of

Swindell

LUMARITH

REG. U.S. PAT. OFF.

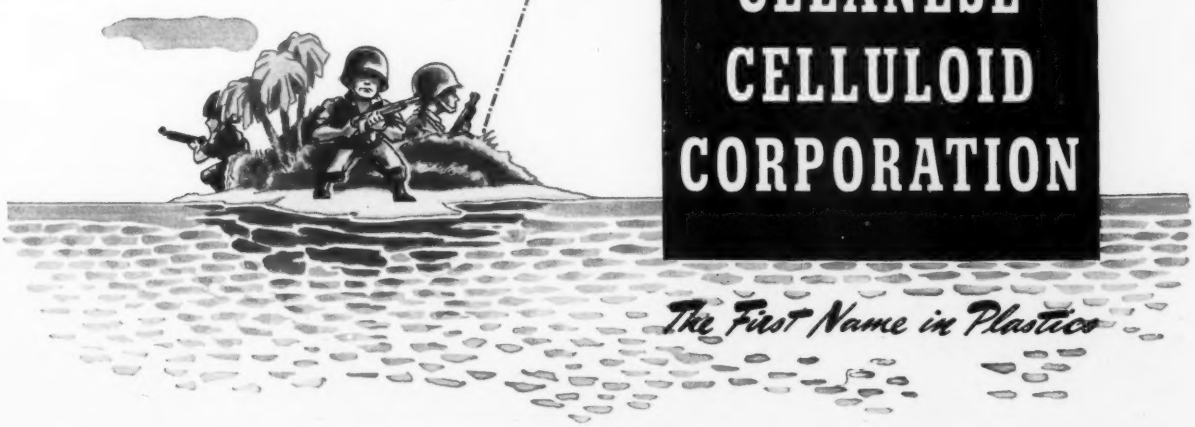
Keeps the Marines' "Reinforcements" Fresh

In the tropics the U. S. Marine Corps fights a ceaseless war against moisture and fungous growths, which cause rapid deterioration of many radio, telephone and electrical parts. For spare parts—equipment "reinforcements" ready for instant use—the Marines now have the situation well in hand:

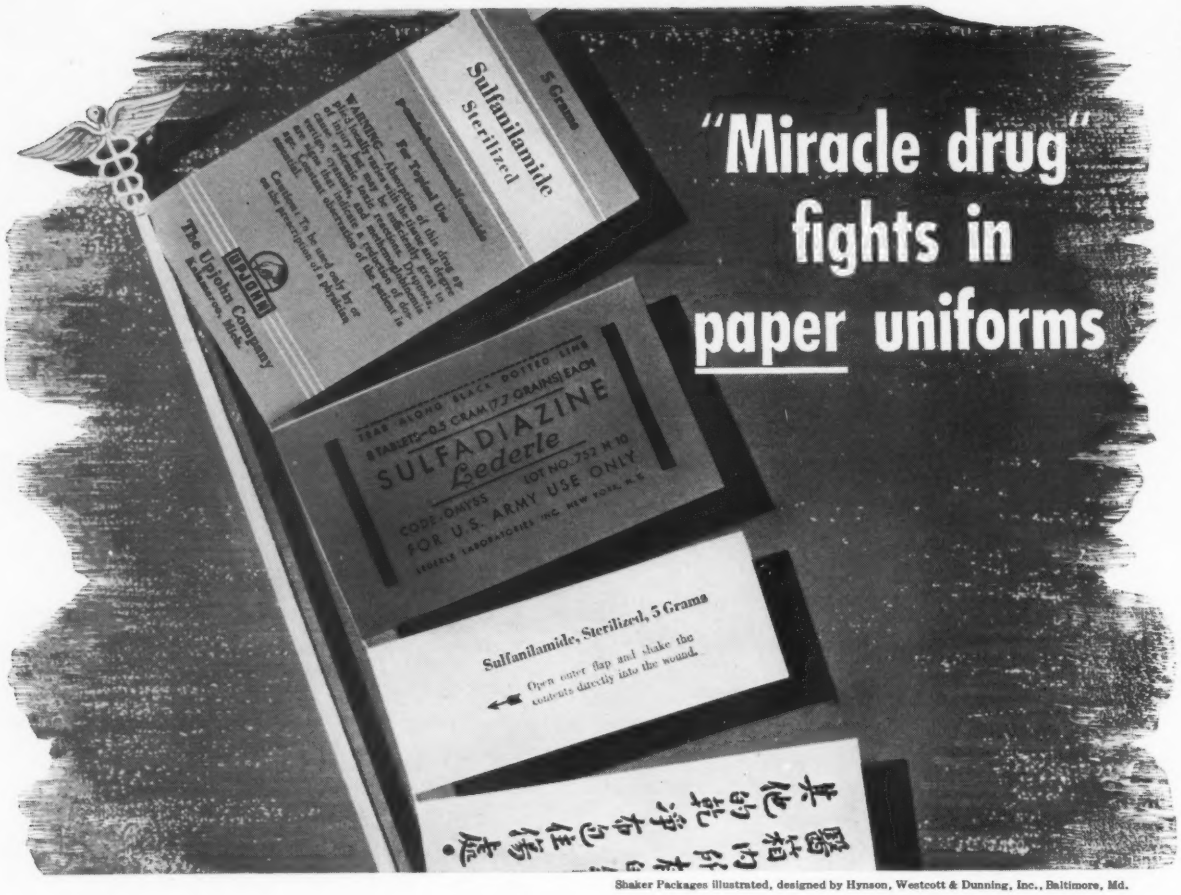
Each part is wrapped and sealed individually in transparent packaging material, then packed in a rigid, transparent Lumarith plastic container, sealed around the cover with moisture-proof, pressure-sensitive tape. Thus Lumarith, the "glamor" packaging plastic, scores again for U. S. military use—delivering vital spare parts factory-fresh on the battlefront.

Lumarith protects against mold and poison gas—is not affected by extremes of humidity or temperature—is proof against water, grease and germs—does not shrink, dry out or become brittle. The Army, Navy and Marine Corps can find many uses for these qualities in Lumarith containers and tubes for parts, drugs, medicines and foods . . . in Lumarith-backed tapes . . . in boxes, drums and cans with Lumarith-laminated linings. Military needs for better packaging, for use from Iceland to the tropics, offer a continual challenge to the packaging industry.

CELANESE CELLULOID CORPORATION
180 Madison Avenue, New York City
A division of Celanese Corporation of America



A DIVISION OF CELANESE CORPORATION OF AMERICA



Shaker Packages illustrated, designed by Hynson, Westcott & Dunning, Inc., Baltimore, Md.

• Safe conduct for the sulfa compounds . . . to fighting men all over the world . . . to advanced dressing stations . . . to base hospitals . . . safe conduct, and quick!

Quite an order.

It meant a whole new series of containers designed to meet all climatic conditions. Iceland frost, Borneo heat, downpours, bugs and sandstorms . . . the sulfa compounds had to have containers almost as miraculous as the drugs themselves.

And that's what they got. Paper turned the trick. Paper did the job.

And paper is finding ways to lend a hand in other emergencies, too. In business where vital materials have been curtailed, for example, paper often holds the saving answer, although a priority rating may be necessary to clear the way.

Out of all the innumerable jobs that paper can do, and the many extraordinary requirements it can meet, there must be a few directly applicable to your own business. And if we seem a bit positive about this, it's because we have been making paper for many years—making *a thousand miles of it a day.*

During this time we have gained a fund of information and experience that may prove useful to you right now. And certainly, when materials are again available, it will enable us to supply you with papers for many new and surprising uses.

In the meantime, Oxford merchants and Oxford salesmen are at your service.

OXFORD PAPER COMPANY

230 Park Avenue, New York, N. Y.
Mills at Rumford, Maine & West Carrollton, Ohio
Western Sales Office:
35 E. Wacker Drive, Chicago, Ill.

Can paper products take the place of scarce materials vital to the war effort? All our research facilities are concentrated on finding the answers.

How will *You* be packaging in VICTORY'S ALUMINUM?

vic·to·ry's a·lu·mi·num, n. Same uses as much aluminum as in 1939 and bearing an interesting new price tag

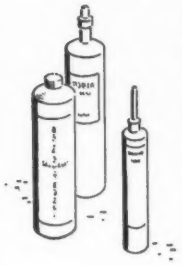
In Foil?

Think of Alcoa Aluminum Foil not just as a shiny, decorative wrapper. Think of its practical, protective values. For instance, in the form of *heat-sealed* bags, envelopes, liners and inner pouches, you get the fullest benefits of Aluminum Foil's exceptional efficiency as a barrier to air, moisture, vapor and light. Sounds like the perfect answer to packaging dehydrated foods...someday.

In Closures?

Tricks can be done with Aluminum, in the design and functioning of closures, that can't be done so well in other metals. Seals can be made absolutely tamperproof. Can be tailor-fitted to each container to assure a more secure seal. Can be designed to fill special needs which standard closures do not meet . . . an interesting thought for package designers to mull over.

In Tubes?



Revise your prewar concepts of Aluminum collapsible tubes. First, there will be a brand-new set of price figures that you have never seen before. (The price of Aluminum ingot has been cut four times in the last three years, a total of 25%.) Another thing, new ways have been found to treat Alcoa Aluminum tubes to make them inert to acids and alkalies.

In Barrels or Drums?

Breweries will not be the only ones to welcome the return of Aluminum barrels when Victory's Alcoa Aluminum is released for peacetime needs. Many others will learn, as brewers have, that returnable barrels and drums made of Aluminum are light to lift and ship. Are friendly to food. Are durable, easily maintained and surprisingly low in first cost.

In a New IMAGINEERED Form?

It's in the cards! When imagination starts playing with "More Aluminum" and "Cheap Aluminum," engineering minds will surely find new practical applications for it. That's Imagineering, something you can do now in spare moments. Imagineers can get good counsel from ALUMINUM COMPANY OF AMERICA, 2129 Gulf Bldg., Pittsburgh, Pa.

Aluminum Is a Natural Protector

Alone, or in combination with other materials, it excels in preserving freshness, flavor, volume, aroma and color of products that are sensitive to air, light, heat, and gain or loss of moisture. Its sparkling beauty makes a handsome package, too.

Reg U.S. Pat. Off. ALCOA ALUMINUM

Think of ALCOA ALUMINUM

when you think of tomorrow's packages

Collapsible Tubes for Our Armed Forces!

From the icy fastness of Murmansk to the sweltering heat of Africa — collapsible tubes are performing a valiant service for our armed forces!

They safeguard concentrated food rations that spell life itself deep in the jungle or far at sea. They carry precious sulfa drugs to combat disease ...soothing balms to heal the burns of gas and fire. They do scores of new and difficult jobs that are proving — and reproving — their utility, convenience and efficiency.

Yes, and on the home front — collapsible tubes carry on! For example, the Sun Tube Corporation, in addition to aiding the war effort — offers American manufacturers a complete packaging service. Sun Tubes are convenient, easy to use and practically unbreakable. They protect their contents against air, light and contamination. Thanks to their sturdy metallic construction, they withstand heat, cold, water and hard usage. They are ideal containers for many types of products.

Let us give you full details about the advantages of Sun Tubes for your products — or help you solve your packaging problems. Write, phone or wire to Sun Tube Corporation, Hillside, N. J.

SUN TUBE CORPORATION · · · Hillside, New Jersey

CHICAGO, ILL.
James L. Coffield, Jr.
360 No. Michigan Avenue

CINCINNATI, OHIO
G. M. Lawrence
2428 Spring Grove Ave.

ST. LOUIS, MO.
M. P. Yates
315 Chestnut St. (Room 125)

ST. PAUL, MINN.
Alexander Seymour
903 Pioneer Bldg.

LOS ANGELES, CALIF.
R. G. F. Byington
1260 North Western Ave.

"You mean your kraft paper can do that?"

RECENTLY, one manufacturer after another has expressed amazement in just those words. They had no idea of the jobs that kraft paper packages and multi-wall bags are now performing.

We don't know what your particular "THAT" may be. But if you have a packaging or shipping problem, we'd like to call to your attention the fact that kraft multi-wall bags are successfully replacing containers formerly made of metal, burlap and other scarce materials...meeting specific demands in numerous industries...serving, and serving well, in thousands of important tasks.

WITH MULTI-WALL CONSTRUCTION, Union Bag & Paper Corp. offers highly efficient methods of packaging and shipping agricultural, chemical, fertilizer, food and rock products...affords a decided weight and space-saving advantage.

• • •

IN THE FIELD OF WAR PACKAGING, Union Bag & Paper Corp. is able to make kraft papers resistant to oil, grease and water, super-strong, non-scuff, flavor-sealing, fold-enduring, and eye-appealing...is able to make kraft containers that have one, or ALL of these important advantages.

Whatever your wartime container or package problem... no matter how difficult it may seem...consult

UNION BAG & PAPER CORP.

WOOLWORTH BUILDING, NEW YORK, N. Y.

KRAFT PAPER—THE SERVICE UNIFORM OF AMERICAN PRODUCTS

HOW TO PACK A WAR

• Even prosaic packaging is different this time. Ammunition, foods, tank, truck and plane parts for the Second Front—and all the Fronts—are going to war more safely, quickly and handily because they are packed scientifically for the job.

• Special packages are the rule. Packages that meet military and other government specifications . . . packages that even go beyond these requirements to expedite handling, cut down waste and damage, save time and materials, weight and shipping space.

• To every present or prospective war contractor, Container Corporation offers the complete facilities of its strategically located plants, its staff's 2 years of experience in military packaging, the fruits of months of work with the government departments and agencies.

• Within our own organization, we combine the manufacture of boards, the design and fabrication of countless types of paperboard packaging: corrugated and weatherproof fibre containers, folding cartons, and other packages in almost infinite variety.

• We'd like to send you a new booklet, "Paperboard Goes to War," a practical survey of war packaging as we are doing it today. Write or call our nearest office for it, and arrange to discuss your war packaging with our staff.

CONTAINER CORPORATION OF AMERICA

General Offices: 111 W. WASHINGTON ST., CHICAGO

New York • Rochester • Natick, Mass. • Philadelphia • Akron • Cincinnati • Cleveland • Circleville • Detroit • Indianapolis
Wabash • Carthage • Anderson, Ind. • Peoria • Rock Island • Minneapolis • Baltimore • St. Louis • Fernandina • Ft. Worth

EVERYTHING PAPERBOARD FOR EVERYTHING PACKED

We invite you
to submit your war packaging problems
to us... for results that merit your
approval and patronage.

CAMEO
DIE AND LABEL COMPANY
DESIGNERS and CRAFTSMEN
154 WEST 14th STREET
NEW YORK, N.Y.
WATKINS 9-8484

IN CANADA: CAMEO METAL SEAL AND LABEL COMPANY, LTD., 371 DOWD STREET, MONTREAL

Outmoded as hoop skirts is the belief that glass containers cut production. Thanks to modern equipment, many types can be handled as speedily, efficiently and economically as cans—and often with the same equipment.

Whether you pack solids, semi-solids, powders or liquids...pack hot or cold, with or without vacuum, sterilized or processed, Anchor Hocking has a container and closure to most completely meet your specialized requirements.

A word from you about the products you're thinking of packing in glass will bring samples of suitable containers and closures. And remember—Anchor Hocking packaging engineers are at your service to help with the efficient conversion of your production line.

An able and popular Anchor Hocking representative is C. L. Lightfoot, a member of the Anchor Hocking family for 23 years.

ANCHOR HOCKING

GLASS & CAPS

ANCHOR HOCKING GLASS CORPORATION · LANCASTER, OHIO

IN BATTLE
OR
BUSINESS.

Army campaigns demand ALL the facts, and get them by radio and messenger before and during campaigns Photo U S Signal Corps

GET **ALL** THE FACTS *Before* YOU PLAN YOUR CAMPAIGN

YOUR product may need a *transparent* container. CELLUPLASTIC gives you *shatterproof* transparency! If you want an identifying color, CELLUPLASTIC can give you ANY color, opaque or transparent.

Every merchandising advantage a container *should* have to attract the eye, to protect its contents, avoid breakage and win goodwill is *inherent* in CELLUPLASTIC containers. They are made in all sizes and shapes—all resilient, lustrous and give you *more* for your packaging dollar than any other type of package!

shatterproof
CONTAINERS

- SEAMLESS
- COLORFUL
- MORE DURABLE

FIRST IN CELLUPLASTICS

HYCOLOID-CLEARSITE

CELLUPLASTIC CORPORATION

EXTRUSION AND INJECTION MOLDERS

60 AVENUE L NEWARK, N. J.

"...and pass the Ammunition"

Fighting food, health and energy "ammunition," is being distributed to our lads in all corners of the world. The gigantic task of providing for our warriors and war workers abroad and at home, plus those millions dependent upon lend-lease supplies, staggers the imagination. Still the prodigious job must be done. To this purpose, the folks at Rhinelander paper mills are contributing the limit of their abilities. In spite of our greatly expanded facilities, they still seem inadequate to supply the vastly increased paper demand created by new applications. Rhinelander protective papers are not only safeguarding foodstuffs at home and abroad, but are serving a variety of other essential purposes in protecting parts for planes, guns, tanks and other war materiel. Again we pledge ourselves to keep the paper coming — first for our Country's war needs — then to you and your needs.

Volkert Becker

PRESIDENT
RHINELANDER PAPER COMPANY

RHINELANDER
PROTECTIVE PACKAGING
Papers

FROM THE BEST THAT'S MADE TO THE CHEAPEST THAT'S GOOD

Genuine Greaseproof
Coffee Bag Papers
Confectionery Papers
Cereal Wrapping Papers

Laminated Greaseproof Papers
Lard and Shortening Liners
Bakery Product Wraps
Coated Food Packaging Papers

Cracker Box Liners
Greaseproof Innerwraps
Glassine Papers, Plain, Colored & Embossed

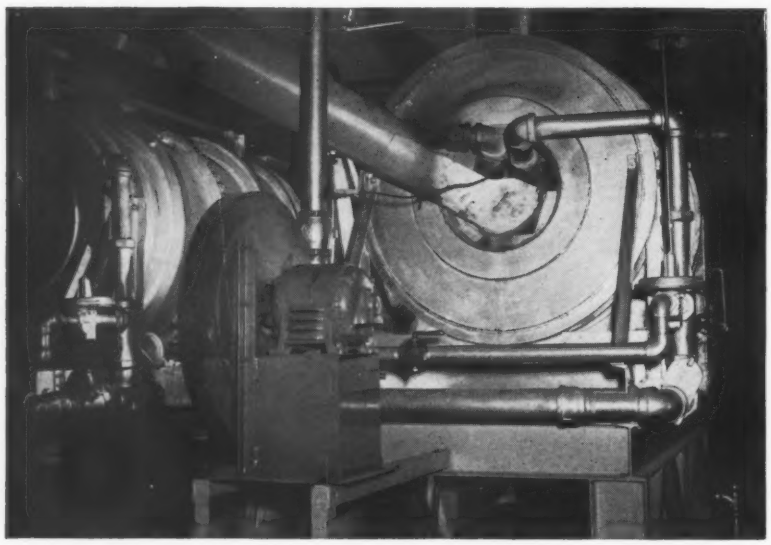
Wax Laminated Glassine
Opaque Label & Bag Glassine
Packing Industry Wrappings — and Specialties to order

RHINELANDER PAPER COMPANY • MILLS AT RHINELANDER, WISCONSIN, U.S.A.

INSIDE NEWS

FEBRUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

Vegetable Flame Peeler Proves Successful



FLAME PEELER IN USE—*More satisfactory than abrasive peelers which remove a much higher percentage of the good part of vegetables, the flame peeler may well become a standard piece of cannery equipment in normal times.*

A FLAME PEELER has been used by a New York canning company to prepare vegetables for newly installed dehydrating lines. So successful has been the operation that it may prove a satisfactory unit for use in canning operations as well as for dehydrating.

The peelers originally were designed for use on pimentos in the south. They have been tried experimentally on carrots and should prove satisfactory for similar root crops.

The peeler consists of a large rotating metal cylinder lined with a refractory brick worm which carries the product through the cylinder during the flame treatment. An intense flame is blown into the cylinder through the intake end. As the vegetable passes through the outer surface is charred. A forceful stream of water at the output end of the machine washes off all the charred peel and the vegetable is ready for the inspection and preparation line.

The advantages of the flame peeler are said to be fast production with a minimum waste of material, since there is no abrasion beyond that of the water spray which cannot penetrate deeper than the heat treatment. (269)

Brazilian Oils Gain New Importance

Besides producing cottonseed, linseed, castor, coconut, brazil-nut, sunflower, peanut and palm kernel oils, as well as oil from coffee, Brazil yields many other vegetable oils which may become important as a result of war shortages. They include citicia oil from the seed of that name; babacu oil from babacu nut; andiroba oil, similar to almond oil; curicuri oil, similar to copra oil; bankul oil from the nogueira nut; cumarin oil; the edible oils of curua, sesame and macauba; pracaxi oil; corn oil and mustard oil. Moreover, murumuru and tacum, two vegetable fats used in the manufacture of margarine, are also produced in Brazil. (270)

* * * * *

SYNTHETIC TALL OIL has reportedly been produced in India from rosin and fatty acids by a method worked out at the Forest Research Institute, Dehra Dun. This material is in demand for the production of asphalt emulsions for road making, the British press reports.

Paints Now Made With Synthetic Resins

Paints made with synthetic alkyd resins have durability and adaptability. In the new lusterless, olive-drab enamels, these resins have largely replaced tung and perilla, and their incorporation in other paints has produced coatings particularly valuable for protecting the superstructure and other parts of warships. One report asserts that these resins and heat-bodied linseed oil yield varnishes better in some cases than those produced with tung—and at a smaller cost. (271)

New Substitute for Sponge Rubber

Because a kettle boiled over accidentally, a surgical dressings manufacturer has announced, there is a new substitute for sponge rubber that can be produced from waste farm products and used in tanks, airplanes and other war equipment.

Two chemists in the laboratories of the company were seeking a substitute for rubber as an adhesive in adhesive tape. They combined a resin with an acid. When they attempted to vulcanize it in a kettle with other chemicals, the contents foamed up out of control. They succeeded in controlling the foam and the new rubber substitute was the result. The sponge-rubber substitute, as yet unnamed, can be used to line tanks, pad airplane cockpits, pad helmets, fill seat cushions and make de-icers for airplane wings and mattresses for hospitals.

After the war the product will be used for general civilian production to replace natural sponge rubber. The discoverers of the new product said the resin was derived from soybean and corn oil. They said that by controlling the foam they can control the density and resilience of the substitute rubber. It is also claimed that the product absorbs more water than spongy rubber and can be easily vulcanized to metals, plastics or wood. Moreover, it does not age as rapidly as natural rubber and resists acids and gasoline better. (272)

War Spurs Meat-Drying Techniques

Probably one of the most important developments to come out of the war, so far as the other Americas are concerned, is the advance in knowledge of drying meats. The U. S. Government is placing large orders for millions of pounds of dried beef and pork.

Dried beef is made from the lean portions of beef cattle, with bones and fat removed. An average steer will produce about 75 pounds of dried beef weighing only one fourth as much as the original meat and measuring only one half the volume. Equally important, the dried beef can be safely eaten months after it has been prepared. (273)

NATIONAL CAN

PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

Importation of Mexican beer into the United States has more than tripled since last year. The leading breweries declare that they can supply only half of the present U. S. demand. Mexican beer also goes to several Latin-American countries.

* * * * *

Promote Sauerkraut Canning in the Home

Owing to restrictions placed upon canning sauerkraut in tin cans, manufacturers of kraut may stimulate the sales of bulk kraut by promoting its purchase for home canning in addition to that used for immediate consumption.

The objection to enforced selling of kraut in bulk is that it does not keep the year around. Continued fermentation in the containers after it is in the retailer's establishment eventually makes the kraut unedible. It is unlikely, therefore, that bulk consumption can ever result in as large a total demand as existed when the product could be canned.

However, a real consumer education campaign, sponsored by the kraut packers, might well point out to the housewife the advantages of purchasing new kraut in bulk and packing it at home for future consumption. Such promotion could give specific directions for home-canning of kraut, either by the hot-pack or cold-pack method.

Home-canning of kraut is easy. The only disagreeable home chore would be making the kraut in the first place. (274)

WARTIME CONTAINERS—National Can Corporation is producing quantities of steel drums and kits to contain essential war supplies. The type of steel drum shown here carries high-grade lubricating oil and solvents for the U. S. armed forces, has a capacity of 5 imperial gallons.

Technical Topics

VEGETABLE "BRICKS"—The compression of dehydrated vegetables into "bricks" which can be coated with various packaging materials to replace critical metals is being studied by the New York State Agricultural Experiment Station at Geneva, N. Y. The dried vegetables are reduced under tremendous pressure to small "bricks" practically free from air. They are then coated with various moisture-proof and gas-proof materials. (275)

NETTLES—Britain's search for economic value in weeds has developed a paper of excellent quality from nettles. (276)

PHOSPHATE COMPOUNDS occupy an important role in the manufacture of bread for the American armed forces. Ammonium phosphate is used as a propagating agent for yeast going into the dough, and sodium ferric pyrophosphate is added to the dough batch to aid the nutritive qualities of the flour. (277)

GELATINE can be made from dried rabbit skin shreds, and a patent covering the method has recently been issued. (278)

FLAVORINGS—Allied occupation of Reunion Island in the North African campaign gives this country another source of flavoring ingredients. Vanilla beans are produced on that island—also vetiver, ylang ylang and geranium. (279)

CHLORINE added in very small amounts to the circulating water of steam condensers was successful in preventing organic growths in the tubes. It is reported that the treatment is now in use in many British power stations. (280)

HALOGENATED POLYTHENES, described in a recent British patent, are declared to be useful raw materials for the manufacture of paints, varnishes, artificial leathers and related products. The polythene to be halogenated is made by polymerizing ethylene by subjecting it to very high pressure and moderately high temperature. (281)

AMMONIA SUBSTITUTES — Replacements for household ammonia, now unavailable because of the war, have been introduced by a number of manufacturers. The new products are said to clean everything that ammonia will clean, while offering the additional advantages of improved odor and lower toxicity. (282)

INSECTICIDE—A possible substitute for rotenone, essential insecticide ingredient now practically unavailable, exists in the ground seeds of the yam bean, a tuber-like root grown in some Central and South American countries. Tests against cabbage worms, codling moth larvae, aphis, etc. showed results in some cases equal to the control provided by rotenone. (283)

TERPHENYLS have been made available commercially by a large American chemical manufacturer. The new high molecular weight, aromatic compounds are declared to offer opportunities in the chemical synthesis of dyes, drugs, and organic chemicals. They may be halogenated, sulphonated, or nitrated in the manner usual for aromatic compounds, it is added. Ortho, meta, and para forms are offered. (284)

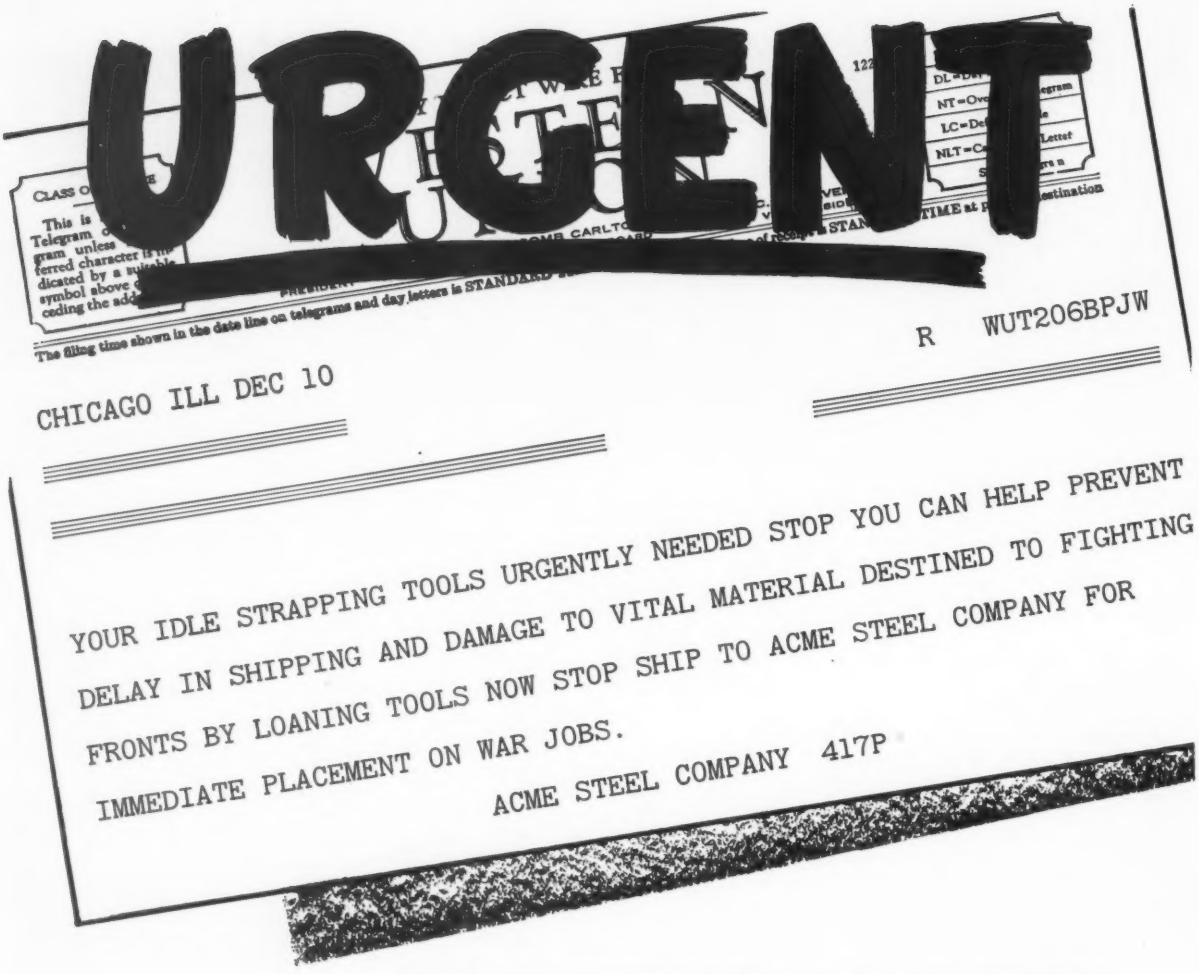
PLANT HORMONES—Phenoxy and benzoic acids substituted in the nucleus with halogen, methyl, and nitro groups were declared recently to have opened a new line of progress in plant hormone development. Dichlorophenoxyacetic acid is very effective, it was stated, in causing cell elongation, adventitious roots, parthenocarpy and various formative effects. (285)

CHLOROPHYLL has been shown in recent investigations to have medicinal value in combating deep-lying infections in the cleansing of wounds, and in the relief of chronic sinus conditions and common head colds. It is also stated to be effective in controlling the offensive odor from certain anaerobic infections. (286)

ACRYLIC RESIN and mixed lower alipathic acid esters, such as cellulose acetate-butyrate or cellulose acetate-propionate, are stated to produce tasteless and odorless compositions suitable for coating the inside of metal food containers, according to a recent United States patent. (287)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

(Advertisement)



Because steel strapping helps to assure safe, damage-free arrival to all types of shipments, from crated fighter planes to cartons of canned foods . . . demand for the speedy Acme strap-applying tools has taxed our capacity to the limit . . . . . all strapping tools are made from critical materials.

How to draft your idle strapping tools for war work

Just send your unemployed Acme strap-applying equipment to Acme Steel Company. These tools will be placed with the armed services and in war plants. On strapping tools made by others than Acme, write the manufacturers.

Tools loaned will be replaced

The Acme tools which you loan to the war effort will be replaced whenever you need them. Or if you prefer, a cash credit, based on their present return value, is readily available. Will you please check up today . . . then let us know how many Acme strap-applying tools you can spare and ship them direct to us.

ACME Steelstrap PROCESS

ACME STEEL COMPANY General Offices: 2843 Archer Avenue, CHICAGO, ILLINOIS

Atlanta • Baltimore • Boston • Detroit • Indianapolis • Los Angeles • Milwaukee • New Orleans • New York • Philadelphia • Pittsburgh Portland, Ore. • St. Louis • St. Paul • San Francisco • Seattle • also representatives in other principal cities

ACME STEEL COMPANY OF CANADA, LTD., Montreal, Toronto, Winnipeg, Vancouver

Looks like *Tough Going* ahead in the POST-WAR MARKET

IT'S WISE to think the return to easy-going, pre-war conditions will *not* be quick when peace comes.

The post-war market will be hard to sell—and hard to keep sold. Buying habits will have changed. Competition will be keener.

There'll be need for more aggressive selling, more vigorous merchandising—and *better packaging*.

It's not too early to be planning ahead now. Ritchie has!

During the more than two years we have been busy on war work, we have also been busy developing new machines, new methods, new ways to give you *better* packages at *lower* cost.

This war-won knowledge is yours to employ ***now*** through Ritchie packaging engineers and designers. Their services are offered without cost, without obligation and without thought of gaining immediate business.

Start planning for tomorrow's needs—today—with Ritchie.

W. C. Ritchie AND COMPANY

8841 BALTIMORE AVENUE • CHICAGO

SET-UP PAPER BOXES
FIBRE CANS
TRANSPARENT PACKAGES

NEW YORK DETROIT LOS ANGELES ST. LOUIS MINNEAPOLIS DENVER MIAMI

PAPERBOARD IS HELPING FIGHT THE BATTLE OF SUPPLY!

IN THE larger sense, freight-carrying ships, trucks and trains are but self-powered containers for whatever they are carrying. And within these larger containers must be hundreds and thousands of smaller containers protecting and keeping clean or dry or moist the goods of war and peace.

After Pearl Harbor, 1941, many of the materials from which these smaller containers were normally fabricated, marched straight off to war. This left paperboard with a Herculean packaging job to do.

And in the 12 months passed, paperboard has met the challenge!

From eggs for England to bomber parts for blasting Berlin, paperboard has proved itself in strength, protective qualities and economy. Here at Sutherland . . . where paperboard can be shaped into many sizes and forms, paraffined for safeguarding perishable foods, laminated for special protective qualities, printed for beauty . . . scores of new packages have been developed during the past year . . . and put into production to help solve the supply problem.

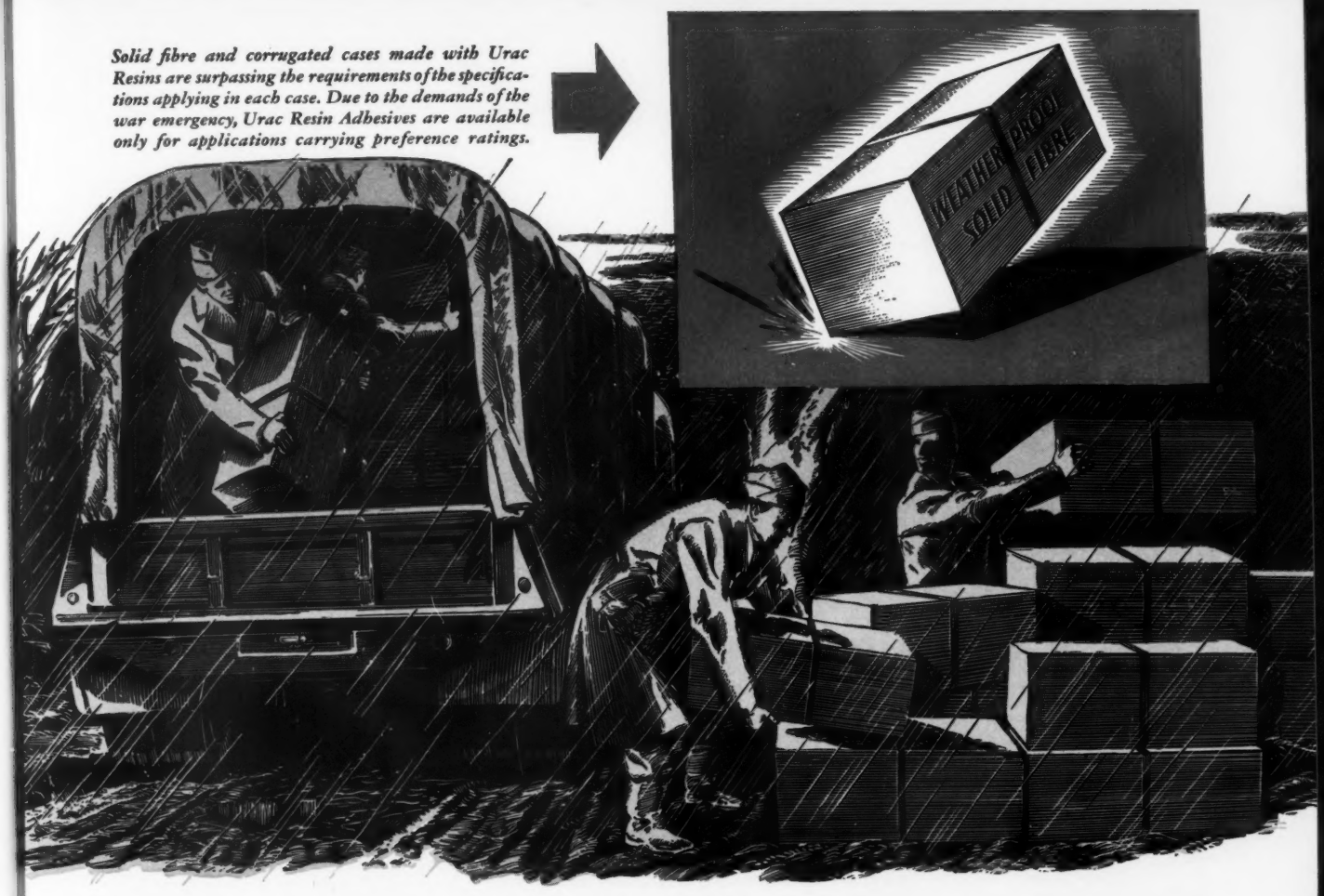
Let us show **YOU** *what paperboard can do to solve your packaging problem now!*

In "WARTIME PACKAGING", you may find the answer to YOUR packaging problem! Drop a line, right now, for your free copy of this helpful booklet.

SUTHERLAND PAPER COMPANY

KALAMAZOO, MICHIGAN

Solid fibre and corrugated cases made with Urac Resins are surpassing the requirements of the specifications applying in each case. Due to the demands of the war emergency, Urac Resin Adhesives are available only for applications carrying preference ratings.



URAC "WEATHERPROOFED" PAPERBOARD CONTAINERS CAN *"Take It"*

New Resin Adhesives for Solid Fibre or Corrugated Boards Bring New Utility . . . Are Easy to Use

You can now have solid fibre laminations or corrugated container board rendered water-resistant, stronger and "weatherproof" to meet wartime demands for packaging materials.

Weatherproof Solid Fibre Container Board

Solid kraft or chip-filled solid fibre container board made with either dextrin gums or starch adhesives in conjunction with Cyanamid Urac* Resins offer water-resistant laminations of exceptional stamina and container material that can be relied upon to "deliver the goods" in any weather.

Weatherproof Corrugated Container Board

Urac Resins impart properties to corrugated board which make it suitable for applications where ordinary silicate or starch bonded corrugated could not be employed. Used in admixture with a modified form of standard starch corrugating paste, Urac Resins will give a weatherproof board suitable for a variety of packaging needs where wood and wirebound wood have been used heretofore!

Investigate the advantages of these new developments. Ask your regular supplier or get in touch directly with us on the possibilities of developing or utilizing a better line of "weatherproof" paperboard containers to meet your requirements for military and essential civilian packaging needs. Write today for further information on this outstanding development!

AMERICAN CYANAMID COMPANY
PLASTICS DIVISION
36 ROCKEFELLER PLAZA • NEW YORK, N. Y.
**Reg. U. S. Pat. Off.*

URAC

A CYANAMID PLASTIC

IT PAYS TO TALK TO THE

Bemis Multiwall Paper Bag Expert

"You're more than just a bag expert. You're a detective!"

That's what a bag user said after one of our Multiwall Paper Bag experts visited his plant and solved a troublesome packaging problem which had been stealing his profits.

The counsel of our staff covers every phase of packaging by the bag . . . the bags themselves, filling and closing, shipping and storage. Our experts can give competent advice on these subjects because they *know* every angle of packing and shipping. Often they show manufacturers how to increase production and cut costs in the packing room.

Services of our experts are available to you without cost or obligation . . . whether you're a Bemis customer or not.

Next time you have a packaging problem, write or wire our nearest office. We'll have an expert on the job promptly . . . and it won't cost you a penny!

Bemis representatives are the kind of men who take off their coats and tackle a problem from a practical, experienced point of view.

COSTS CUT AND LOSSES REDUCED WITH BEMIS MULTIWALL PAPER BAGS

Bemis Multiwall Paper Bags are economical, one-trip containers that insulate against moisture and thus reduce caking and loss of quality. Their extra strength maintains output by minimizing breakage on production lines. Bemis self-forming gussets speed filling and closing. Brilliant Bemis printing makes brands stand out.

BEMIS BRO. BAG CO.

East Pepperell, Mass. • Peoria, Ill. • San Francisco, Calif.
Wilmington, Calif. • St. Helens, Oregon

Baltimore • Boston • Brooklyn • Buffalo • Charlotte • Chicago • Denver • Detroit • Houston • Indianapolis • Kansas City • Los Angeles • Louisville • Memphis • Minneapolis • New Orleans • New York City • Norfolk • Oklahoma City • Omaha • St. Louis • Salina • Salt Lake City • Seattle • Wichita

"This is
TIRE INSURANCE"

THIS IS
Packaging Insurance

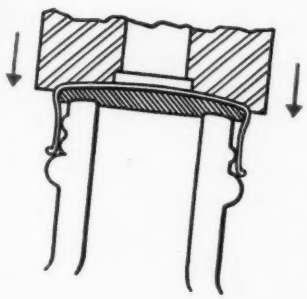
Plants with Packaging Insurance (Alseco Rolled-On sealing) just naturally stop worrying about leakers and breathers.

Alseco R-O Seals put an end to such things. These closures *have to fit*—they're tailor-made for each individual container, "min" or "max." (See diagram at right.)

This means your product stays *right* until the consumer gets it. It also means that R-O's can be removed easily. They're never wedged or cocked.

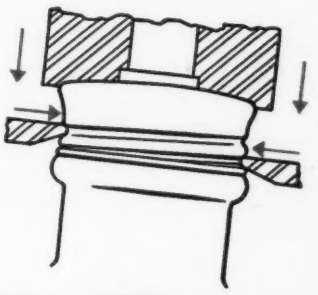
That's why Packaging Insurance helps build good will.

HERE'S WHY YOU GET "PACKAGING INSURANCE" BY THE ROLLED-ON METHOD OF SEALING



1. Plain-skirted Alseco Seal is uniformly seated. Under stationary top pressure, container lip is embedded in liner evenly all around.

2. While held in that position, threads are Rolled-On to conform exactly to threads on container. Each seal is tailor-made, fits perfectly.



Trade Mark Reg ALSECO SEALS U S Pat. Off.

Has Conservation Order M-104 Limited Your Packaging Operations? Anticipating these regulations, Alseco has perfected seals and liners to comply with them. These Alseco developments may well be the answer to your problem of sealing your allowable quota. Write for full information.

TAILOR-MADE

ALSECO SEALS

ALUMINUM SEAL COMPANY, 1245 THIRD AVENUE, NEW KENSINGTON, PA. . . at your service: 29 years of experience building quality seals and sealing machines

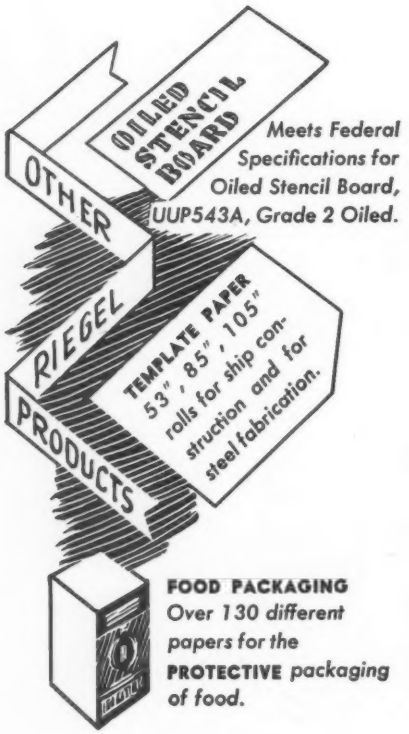
If You're Shipping Metal Parts to

SHANGRI-LA

We can supply all types of

OIL-PROOF, ANTI-CORROSIVE WRAPPINGS

to meet **WPB** *Specifications*



Meets Federal Specifications for Oiled Stencil Board, UUP543A, Grade 2 Oiled.

FOOD PACKAGING *Over 130 different papers for the* **PROTECTIVE** *packaging of food.*

WPB Specifications for packaging Ordnance General Supplies (May 7, 1942) require special anti-corrosive, grease-proof wrappings for packaging many metal parts. We offer a complete line of such papers that can be DELIVERED PROMPTLY from our mills in New Jersey or from central points throughout the country. Our papers have proven anti-corrosive properties, combined with oil-proofness, moisture-vaporproofness, strength and pliability. They can be supplied in sheets, rolls or bags (the latter through your local bag manufacturer)—or they can be "tailor-made" to your specifications, if necessary.

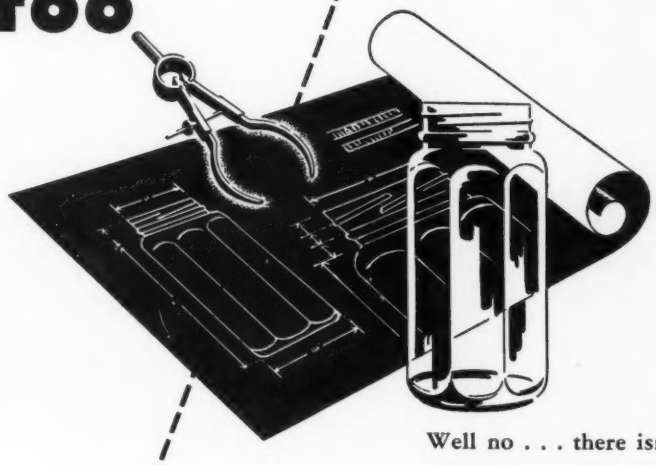
We believe we can help you

to solve almost any paper problem. Our four mills make over 230 different grades for packaging, printing, converting and special industrial use—papers that have been tested, approved and adopted in all fields. If we cannot help you, we will be glad to refer you to someone else who can.

342 MADISON AVENUE • NEW YORK, N. Y.

RIEGEL PAPER CORPORATION

YOU, TOO



Well no . . . there isn't anything so very unusual about the way in which our organization operates—has operated continuously since its inception in 1889.

Composed of men whose skill, understanding and experience has caused them to become recognized as "specialists"—marketing, designing and production specialists to be exact—the years have been crowded with the creation of practical, attractive, economical glass containers . . . for cosmetics, drugs, household and food products.

Techniques have been refined, processing has become more efficient, finished products have been improved—purposely and progressively.

So . . . if you are inclined to be fussy about accuracy or concerned about precision—from the conception of an idea straight through every detail of execution—then ours is an organization with which *you, too*, will in all likelihood enjoy doing business.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. • *New York Office:* 500 FIFTH AVENUE • *Chicago Office:* 1502 MERCHANDISE MART

He's our No.1

customer, today!

AND HE'LL CONTINUE TO BE, UNTIL VICTORY!

UNCLE SAM is placing some mighty important orders, today. They're important to all of us. They've got to get the green light. And they're getting it, here at Gardner-Richardson . . . in our research laboratories, in the plants, all up and down the production line.

The war has proved the worth of paperboard and cartons to do a real job, to perform an outstanding service. Paperboard has been ingeniously fashioned and treated to stand up under the most severe conditions—from the hot, humid jungles of New Guinea to the penetrating cold of the Arctic.

Specially developed cartons are helping protect as well as pass the ammunition. They're helping get ordnance parts to the front lines faster, in better condition. Special cartons for dehydrated foods are multiplying the space in the holds of ships, lightening field packs of our boys on the front lines. And on the home front, paperboard is stepping into the job of many critical metals that have gone to war.

Gardner-Richardson is proud to be a part of an industry that has so many service stripes on its sleeve. We—all of us—will continue to serve and find new ways to serve, until the last shot is fired and Uncle Sam says, "The job is done."

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

GARDNER-RICHARDSON
FROM PULP TO FINISHED PRODUCT
ENGINEERED PRECISION

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

Sylvania* Cellophane

THE MEN AND WOMEN OF THE SYLVANIA INDUSTRIAL CORPORATION ARE PROUD OF EARNING THE ARMY-NAVY "E" FLAG AND THEY THANK THEIR CUSTOMERS AND SUPPLIERS FOR COOPERATION WHICH HELPED MAKE IT POSSIBLE.

SYLVANIA INDUSTRIAL CORPORATION

Works and Principal Offices, Fredericksburg, Va. *General Sales Offices, 122 E. 42nd St., New York City*

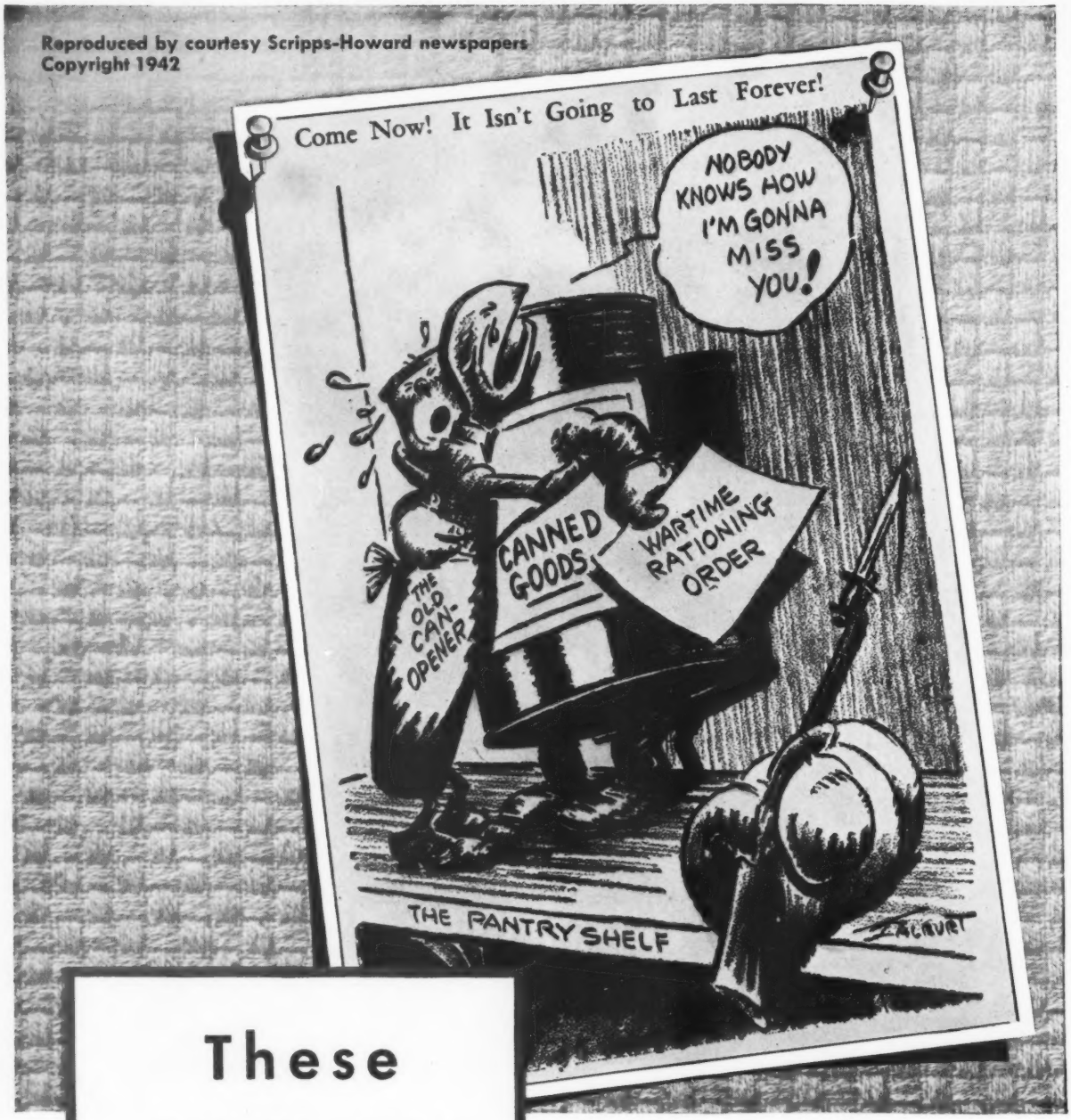
* Reg. U. S. Pat. Off.

RATIONED

But Still the Best Fed Nation in the World . . . **Yes, most processed foods are being rationed so that everyone on the home front may have his share of strength. • We are privileged to cooperate in this program of enough for all, by producing Standardized Glass Containers. Containers that have conserved valuable defense materials and by mass production methods have made delivery possible. • Packers everywhere may be assured of our continued help in the "Standardize for Victory" program until the peace is won. When that is achieved we shall have news to announce—new containers based on what we have learned in these strenuous times.**

HAZEL-ATLAS GLASS CO.

WHEELING, W. VA.



These cartoons made us proud

WE are proud because they told millions of American newspaper readers that the can has *really gone to war.*

We are proud because they emphasize what the can manufacturing industry, the canning and packing industries are doing . . . can do . . . and will do for the one job before us all: the winning of the war.

Nothing is too good for our fighting men, and experience has shown that the can is the one satisfactory container for carrying all kinds of war supplies and getting them there—*safe.* Our purpose for 1943 is to turn out the cans of war faster and better than ever before.

We see a great future for cans and the products they protect. Vast improvements have been and are being made in steel, tin plate, can making and canning methods. With canned products being used all over the world, now and in the future, there will come a recognition of our industries in the nation's economy such as has never been known.

This is our pledge—and our hope—for 1943.

Earle C. Conway

CHAIRMAN OF THE BOARD

CONTINENTAL CAN COMPANY

They're Right for '43.

Because . . .

Armstrong's Embossed-Top Corks are available now to replace metal and certain types of molded caps on liquor, wine, and other glass packages.

Because . . .

They can be decorated in a wide range of colors with your name or trade-mark. Thus they help maintain the smart appearance you want, even when you are using standardized containers.

Because . . .

As always, they're dependable, easy-to-use closures, manufactured by Armstrong—headquarters for all types of quality corks for over eighty years.

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ARMY-(E)-NAVY

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ARMSTRONG'S EMBOSSED-TOP CORKS

Modern Packaging

FEBRUARY 1943 VOLUME 16 NUMBER 6

How far can bulk packaging go?

When the war started, first worries concerned actual shortages of raw materials which went into packaging. Now, as the war progresses, the manpower problem and transportation are as serious and, in some cases, more serious than the lack of raw materials.

Take paper, for example. It is not the shortage of raw material—namely, forests—that will cause the bottleneck this year, but the shortage of men to cut the logs, the shortage of freight trains and trucks and gasoline to carry the logs from forests to mills where the pulp and paper are made.

Seriousness of this situation is shown by the series of orders coming out of Washington since issuance on December 31 of L-244 dealing with paper used by publishers. On January 8 came three more orders—M-241, freezing a number of mills and the production of certain grades of paper at low levels; M-241 A, containing a long list of products in which the use of paper is limited or prohibited entirely; L-245, dealing further with publishing and printing paper; and L-239, covering packaging for certain food products, wearing apparel and gifts sold at retail. So far, with the exception of M-221 passed January 13, dealing with the use of textile and paper bags, L-239 is the only one of the new orders dealing directly with packaging.

The purpose given for L-239 is to provide more containers for essential products formerly packaged in metal by conserving wood pulp which the folding and set-up box industry consumes. It is estimated that this order will save approximately 225,000 tons of paperboard, or 10 per cent of the estimated amount of such board used during 1942.

Some sources believe the orders thus far issued are only the beginning of a continuing series affecting the use of paperboard for set-up and folding boxes for packaging and are the first step in the direction of wider distribution of bulk merchandise. The full force of the paperboard shortage will not be felt until June or thereabouts, it is predicted.

This shortage, some say, will affect most adversely manufacturers of wearing apparel and other dry goods, whose merchandise, it is said, could be sent most easily without the usual paperboard boxes. If that is true, such curtailment would hit hardest the retailers who have certain established routine for handling packaged items in their receiving, marking and stock rooms.

That curtailment of packaging supplies has already been felt in department stores was indicated by the discussions at the Wrapping and Packing Clinic of the National Retail Dry Goods Assn. in January. A number of those present said that they had seen more merchandise arriving at their stores in bulk lately and several gave examples of damage to merchandise that such curtailment of packaging had caused. One delegate cited an instance of china formerly prepacked in unit sets in corrugated boxes, now coming in barrels—and spoke of the additional labor involved in handling merchandise arriving in this manner and the breakage caused in handling it. Another mentioned a delivery of mattresses, which formerly would have come in corrugated containers, but was now arriving in a paper wrapping. "A number of these mattresses were actually torn on the sides and unsalable," he said, "but when we called it to the attention of the manufacturer, his only answer was, 'Well, you don't have to buy my mattresses.' "

Because of their own difficulties in getting workers, retailers generally would rather see more manufacturer prepacking than less of it at this time. At the Wrapping and Packing Clinic, the chairman stated that more attention should be paid to efficient prepacking now than ever before to save labor and to protect merchandise from damage—particularly important when more and more merchandise is being rationed and it is difficult to obtain adequate stocks in any

OWI PHOTO

Ilka Chase of radio, screen and stage fame, joins the "I'll carry mine" campaign sponsored by ODT. Department stores report 35 to 50 per cent reduction in deliveries as a result of this program to save tires and gas. "Returns" have also decreased. All of this saves packaging materials; cuts down waste in department store management.

Dealers stock systems are set up to employ the common size shirt boxes used by most manufacturers. Eliminate them and there is going to be a great deal of difference in the appearance of the shirts when they reach the customer. Imagine the difference if they were handled loose on stock and reserve shelves as shown in the lower illustration.

line. The retailers also felt that, in some cases, manufacturers had taken advantage of a seller's market and the shortage of packaging supplies to cut down on packaging and thereby make a little extra profit under the price ceilings. Store buyers were also criticized for contributing to this situation by accepting merchandise with less efficient packing in order to make a better markup on their merchandise. Some store managements have even offered an allowance to their buyers to pay for the additional cost of better prepacking. They feel that such allowances are justified to assure arrival of merchandise in better condition and to save labor costs of repacking.

How much of this prepacking can be maintained for the duration, of course, depends upon how acute the shortage of labor and transportation facilities for the production of pulp become. If the available amount of paperboard and corrugated that can be produced is needed for essential purposes, then the less essential products will have to move in bulk. The question that should be given careful study and deserves all the attention that manufacturers and retailers can give it, however, is just what merchandise can and just what cannot be shipped in bulk. In some instances, the saving in paperboard that bulk shipping would accomplish, would not offset the increased amount of labor and damage to merchandise that would result from such saving. Such a study would be a foresighted move and furnish valuable information to those in Washington who make the orders and must work out a program which will cause the least disturbance to established distribution routine.

Thus far, department stores have contributed nobly to the country's paper conservation program. True, some of the measures to eliminate gift boxes last year before any real paper shortage loomed, seemed like false flag-waving to add a little to the stores' own pockets. Nevertheless, that action did teach the stores something about how to conserve on the quantity of boxes they gave out to customers. Stores have also saved paperboard through their curtailed delivery service. On the average, deliveries have been reduced about 35 to 50 per cent since 1941. In many cities, customers are now asked to carry packages weighing under five pounds and measuring less than 50 inches length or width. This reduces substantially the number of store boxes used, since many items taken by the customer can be carried in bags. This "carry-your-own" practice also reduces "returns" to a considerable extent. The customer who carries her own packages home makes pretty sure she is carrying home what she wants, because if she doesn't she knows she has got to lug it back herself. This also saves a great deal of waste in packaging materials.

Many stores, during the past year, have been re-using boxes in which merchandise arrives from the manufacturer. One Washington store, for example, saved something like $15,000 last year by the re-use of such boxes for "sends." This store has an efficient system of reclaiming such boxes, which has been in effect for many years. A conveyor system is installed throughout the store. All boxes from stock rooms on the selling floors are returned through these chutes to a sorting department in the wrapping room, where all good ones are saved and stored according to their possibility for re-use.

Order L-239 does not work a serious hardship on stores in the use of retail boxes. It provides that beginning January 1, 1943, no person shall in any quarter put in process for the manufacture of retail boxes more than 65 per cent of the tonnage of paperboard he put in process for the manufacture of retail boxes in the corresponding quarter of 1941. There are certain restrictions on the sizes of these boxes, but these

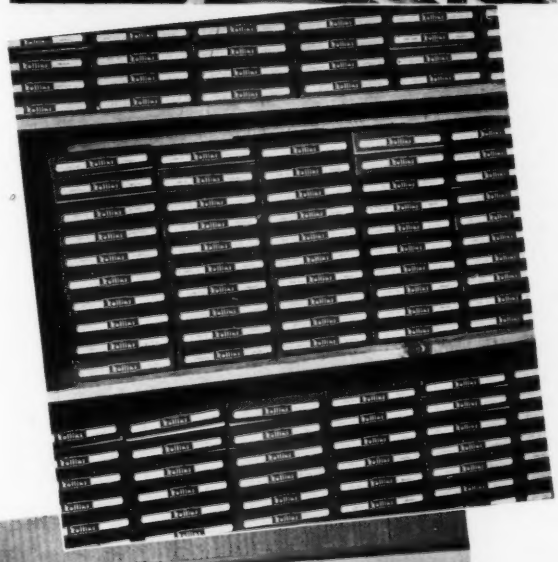
follow very closely the standard specifications for department store boxes established by the Bureau of Standards in co-operation with the National Retail Dry Goods Assn. in 1939. Material for the boxes shall be no higher quality of paperboard than solid news No. 2 finish or gage list No. 3. If the boxes are strip wrapped, they shall have no bottom paper. No lining may be used other than news vat lining on the side of the board forming the inside of the blank. Restrictions on retail folding boxes provide that no virgin pulp shall be used for the manufacture of boxes for clothing or other garments, laundry or flowers.

The 35 per cent reduction in quantity that may be used is offset by the curtailment of boxes used on delivered packages and also by other voluntary practices such as no boxes for dresses under certain prices, millinery under certain prices, gift box policies and so forth. The quality of folding boxes, however, will suffer, since plain chipboard boxes are gray looking, cannot be printed with brilliant colors and are not so strong, because they are likely to break more easily along the scorings.

Glamour gift departments will disappear in stores for the duration, since L-239 forbids the manufacture of empty boxes for sale by retailers.

Order L-239 affects, for the most part, merchandise moving out of a store. It does not affect a manufacturer's packaging of merchandise to the store. To understand the importance of that kind of packaging, a visit is necessary to the marking rooms, reserve stock shelves and selling-floor stock rooms.

In the average department store, there are from 75 to more than 100 departments. In each of these departments, stock records of literally thousands of separate items must be kept. Many of these records are dependent upon methods of pack-



Top photo shows hosiery in the marking room. Center picture shows hosiery on the reserve stock shelves. Bottom (right). Boxes of hosiery on shelves behind the selling counter. Hosiery is protected from the time it leaves the manufacturer until it reaches the customer in boxes—carefully marked for color, size and style. Below. Blankets, unprotected, collect dirt on reserve shelves.

STORE PHOTOS, COURTESY OF LANSBURGH & BRO., WASHINGTON, D. C.

Top. Women's white and light colored gloves are one of the most damageable items in a department store. Center. If there is anything more slithery to handle in bulk than rayon underwear, it would be hard to find. Bottom. When a customer buys a sheet, she wants to use it without laundering. Therefore, it must be kept covered while in stock.

aging developed by manufacturers over a period of years to make the work of store keeping easier. Merchandise is boxed according to size, color, style. It is kept in reserve stock rooms or warehouses in those boxes—everything from baby pants to grand pianos.

Boxes, in a department store stock room, are like filing cabinets—unit containers in which to store one, three, six, a dozen or more of a certain item, separated according to style, color and size. The quantity on hand at any given point can be counted by the number of boxes. The merchandise is kept clean on open stockroom shelves in boxes. It is taken to selling floors in boxes, sometimes, even sold in boxes, if the unit is a popular selling quantity.

Imagine what confusion, extra time and labor would be involved if you eliminated all of those boxes—sent, say, a gross of children's socks loose to a store in a big corrugated box. First, the case would have to be opened. Inside, of course, certain quantities of a given size, color and style might be tied together. The girl in the marking room would untie it, put on the price tickets, tie it up again and start on the next bundle. Perhaps the tie would slip off. Children's socks are not very long and a very little handling could loosen a tape tied around a bundle of them easily. Imagine, if you will, a load going up to a selling floor, the tape slipping off several bundles. The socks would fall on the floor. They would get dirty and besides would have to be sorted and counted all over again. Then, they might not sell in a few days. They might not sell in several weeks if the stock of a standard item is large. All of that time, they must lie loose on a stock shelf collecting dust or getting mixed up. Buyers say they don't see how they could handle them without boxes.

In a children's wear department there are probably as many different items as there are in a whole store—as many items in one department for youngsters as there are separate departments for grown-ups. Take it all out of boxes and see what happens. Furthermore, in infant's departments, mothers are fussy about cleanliness of the articles they buy for their babies. Many infants' items are unit packaged—some of them sterile packages of garments which women will not buy in bulk.

Of course, hundreds of items are shipped to stores in bulk—and it is the easier way to handle them. Dresses, for example, are shipped a dozen to a box. There is no trouble there. They arrive in the morning and are hung on the selling floor a few hours after arrival. Their turnover is quick. If it isn't, the buyer has made a bad mistake. There is never any need of holding dresses on reserve shelves. They move too fast.

Other items of wearing apparel come to the store in the same manner—coats, suits, pajamas, slacks, jackets, skirts—many items which are not perishable when handled in bulk.

But consider women's hosiery. Ordinarily it arrives in boxes of three pairs, so many of these boxes to a corrugated carton. These units go to the marking room, where the stockings are taken out and marked with price tickets put back in the boxes and sent to the reserve stock room. They are removed from reserve stock in these boxes to the selling floor and stored in their original boxes behind the counter on shelves designed to hold just so many boxes. The ends of the boxes show the brand name, the size, the color, the style. The sales girl merely reaches for the proper box to show a particular pair to a customer. Without the boxes, the shelving behind the counter would have to be entirely changed to hold the various sizes and colors separately. They would have to be rebuilt with drawers to hold each kind and size. Every time the drawers were restocked, the hosiery would have to be

handled—merchandise so delicate that a rough fingernail can damage it irreparably. Then, even before the stockings got to the selling counter, they would have to be handled several times on reserve stock shelves.

Hosiery manufacturers and store managers both feel that they could not dispense easily with boxed merchandise. Considerable saving, however, already has been made by hosiery manufacturers through the packaging of their merchandise in boxes holding six pairs to a box instead of the customary three. This saving can be achieved easily and saves labor, because it means that the marking-room girl has half as many boxes to open and refill when she puts on the price tickets. Boxes of a dozen pairs might even be used without upsetting the applecart too much—but to send hosiery in large quantities in corrugated containers, with no other boxing—would be wasteful of merchandise as well as of labor.

If there is anything more slithery or difficult to manage in a store than rayon underwear, it would be difficult to find. Knit rayon fabric is difficult to fold. Once out of a box, it slips all over. It is now packed, carefully folded into boxes, so many dozen slips, vests, panties, as the case may be. These are all carefully marked for size, color and style. Price tickets are added to each garment in the marking room and the underwear is put back in the boxes and stored on the reserve shelves until it is called for by the selling floor. It could be shipped bulk in corrugated boxes, tied in bundles, but imagine the difficulties if the selling floor called for a few dozen of this item, a few dozen of that, and the bundles all had to be untied to get the required number. And how would the reserve stock be kept clean on stock room shelves if it were loose. Sometimes such merchandise remains in reserve a month or so. Uncovered, it not only gets dirty in storage, but also while it is being carried from stock room to selling floor by porters with dirty hands. Keeping styles and sizes straight without boxes would be a terrific headache. Stock room girls hate to handle rayon lingerie loose.

Another difficulty from the manufacturer's standpoint would be how to send out the small quantities that they must now send to smaller stores, under their present rationing system. Many stores do not buy in large quantities anyway. Now their quotas are much smaller. In bulk, they would have to use smaller boxes anyway for the small orders, particularly for styles and sizes that are not popular sellers.

Shirts are another example of a tough item to handle in bulk. Men's shirts now go from manufacturer to store in boxes containing three or four shirts, each carefully protected by a shirt board. They are placed in these boxes in reserve stock, where they remain clean, protected until they are called to the selling floor. Shirts are not a slow mover, but they are an item which can be stocked well in advance of sales. Therefore, there is often a large reserve stock. The damage if these shirts were packed bulk would result in many markdowns. The man who buys a shirt expects to wear it new without laundering. If it is slightly mussed, he won't take it, unless he gets a price to compensate for the damage.

How bulk packaging of shirts would affect the distribution routine from the manufacturer's standpoint is indicated by the following letter from a prominent shirt manufacturer. He said:

"A new order from the WPB has just come out, prohibiting the use of shirt boards in the packaging of shirts by 'launderies.' We are not yet sure whether this applies to the 'laundry' of a manufacturer or not, since the latter is actually not a laundry, but a folding and pressing room.

"Should it happen that this rule does affect the manufacturer, there is going to be a great deal of difference in the appearance of the shirts when they reach the dealer. We have always felt that the shirt board was necessary for delivering the shirts to the consumer in the best possible condition. For a time we did pack some of our better quality shirts without a shirt board, but we soon found out that these shirts were reaching the consumer in a (*Continued on page 104*)

Lansburgh and Bro., Washington, D.C., saved more than $15,000 last year by re-using manufacturer's boxes for "sends." A conveyor system, installed some years ago in this store, returns boxes from the selling floors through chutes to the wrapping room, where they are sorted and re-used as they are needed.

Language for color

In the office of a paper manufacturer, two men sat huddled over a desk. The desk was covered with swatches of yellow paper.

"But, you see," said the first man, "none of these is the right yellow. Not one of them is bright enough. The yellow on the wrapper has to be bright."

"I showed you the bright yellows, "said the other," but you said they weren't the right tone."

"Those sunny yellows? No, they won't do—not heavy enough. Too feminine looking."

"Now these yellows with brown in them give a more masculine appearance," pointed out the paper man.

"Too dull. I want a lively yellow, but one that's not too pastel—something more on the order of gold without the glitter, if you know what I mean," went on the prospective customer patiently.

"These golden yellows of ours . . ." began the paper man.

"Not what I mean. They're brassy. Maybe if they were a bit more orange. . . ."

The conversation went on. The two men probably hunted through the piles of yellow paper samples on the desk until by the process of elimination they arrived at the color the customer wanted for his package wrapper Both seller and buyer were struggling over a relatively simple problem because they had no common color language. The customer had in mind, perhaps, a particular yellow he had seen in an ear of dried field corn or in the set of the latest Broadway musical. He thought by describing his individual reactions to the color, the paper man would understand immediately. Both men were a little discouraged to find that though they both spoke English, one might just as well have been speaking Navajo.

Perhaps a manufacturer wants to match a color for a display. He has a sample of the color he would like, so he sends the sample to a lithographer to have some displays made up in that particular color. In due course of time, he receives his order and as soon as he sees the displays, he frankly is disappointed in his choice of a lithographer. The color just doesn't look right. He doesn't know what is wrong, but to him the display isn't the color of the sample at all. Perhaps display and color sample really don't match, since a great many things may happen to a sample in the course of matching it. It may have been handled and grown darker from contact with none-too-clean hands, or the display may have been made up to match in an entirely different light. Any number of things may have happened.

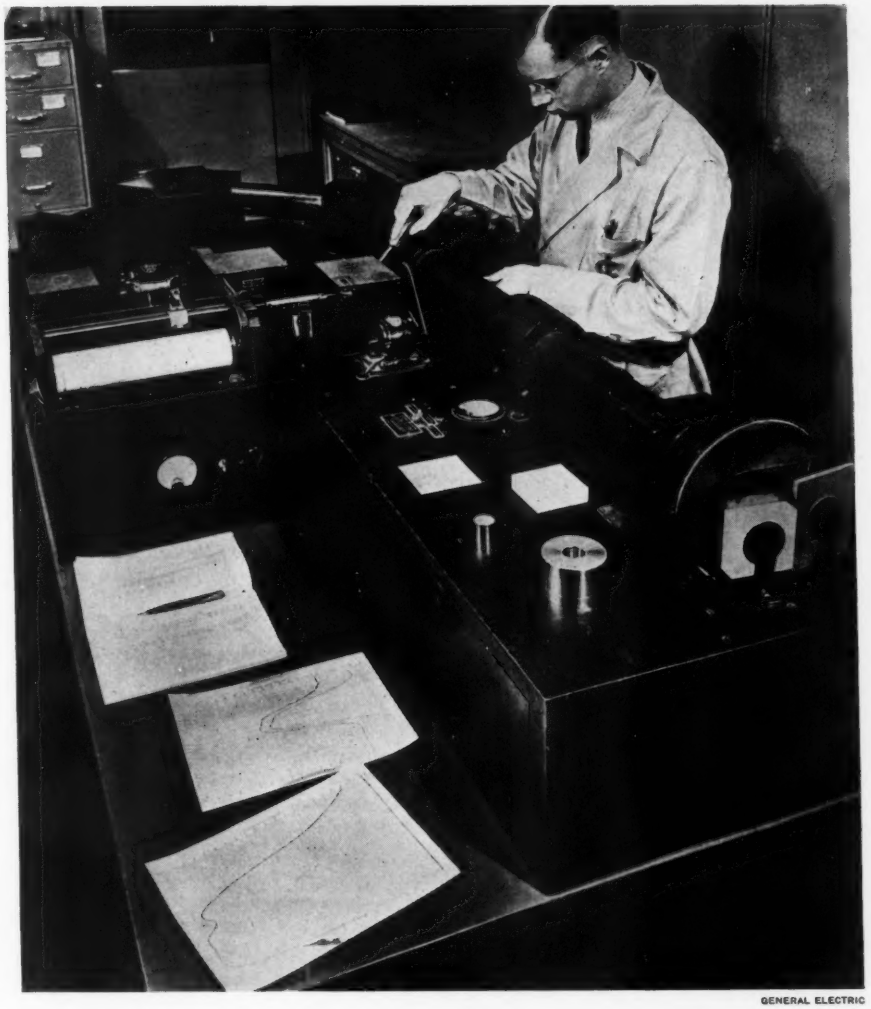
The sales manager of a company is bewildered because sales of one of the firm's most popular cereals have suddenly dropped off. Apparently there is no reason. The product is exactly the same. There wasn't any package change. Or was there? The sales manager begins to question the salesmen. He finds out what is wrong soon enough. Women are refusing to buy because they say the product is stale.

That is not true—the product is perfectly fresh. The trouble is with the package. The company had been putting out its product in a certain red. The firm had been using the color for years and women were thoroughly familiar with it. Then, came time to restock cartons. The new cartons were red and they were exactly like the sample carton the box manufacturer had. That was the trouble—they were too much like it. The manufacturer had the sample for some time and the color had faded. He made the new order up and when the cartons were placed on the market, they looked faded. Housewives took one glance at them and mentally concluded that if the carton appeared faded, the product must be old. They would wait until their grocers got fresh supplies. In the meantime, they bought someone else's cereal.

Situations like the above had occurred in the past and still occur not only in the packaging field, but also in almost every industry or commercial field into which the question of color enters. Drug products, foods, clothing and even shelter are concerned with color. There are recognized color names for certain drugs. Many food products must conform to particular colors.

The navy stipulates navy blue for its uniforms. That branch of the service is referring to just one color in the stipulation and not to the wide variety of blues that as many different people would say offhand were navy blues. When camouflage is ordered by a marine officer for use in a section of jungle country, he's going to be satisfied only if that camouflage coloring is exact. He doesn't want the first enemy plane flying over to pick out the camouflage from the surrounding natural jungle, because the enemy has a filter which readily spots the bad artificial matching job or because the difference in color has shown up in another kind of light.

There has always been interest in color on the part of manufacturers who had to make use of it in connection with their business or industry. However, this concern never was crystallized into a direct and general effort to devise a language for color in which any two people could speak and be sure of understanding one another. Industry was muddling through and, almost literally, mixing its paints by see-and-try methods. On the other hand, it was not necessary for people in business and industry to appear to be running an obstacle race every time they got into a situation which demanded a fairly accurate knowledge of how to order or match a color. Over a period of many hundreds of years there have been artists, chemists, physicists, psychologists, physiologists and others who have collected data on color. Contributions to the present general literature on color have come down to us from the Greeks and the Romans. Up to modern times, however, there was no concerted effort made to take all this vast material and put it to work in a practical way, to devise a means of measurement that would be almost as easy to learn and use as the multiplication table. Up until more recent times, individuals or isolated groups studied color to find out just what happened when the eye registered red, blue, green, etc., on the retina, or light was thrown on a piece of yellow paper or the brain experienced the sensation of a certain color. There was no lack of extremely technical discussions and scientific papers on color, but to the man in the street the measuring of color in mathematical terms or the conveying of a particular color to someone, who did not see it, in terms of a common language, was comparable to computing the light years to the morning



GENERAL ELECTRIC

The spectrophotometer by means of which color is measured and analyzed in terms of light waves. In the foreground at the right of the photograph is an aperture over which the color sample is placed. The long, barrel-like part of the instrument contains the photometer. At the left in the background is the recorder which makes the color-analysis chart. Several charts with the analysis curves drawn lie on the table.

star or diagnosing in medical terms the condition of a diabetic patient.

Then came World War II and interest in color grew keen. The war certainly boomed the color business is the way most of the colorists put it—and they are not talking about the sale of paints or dyes or crayons or inks. What they are talking about is the desire on the part of the manufacturer to have some standard, some language, some code which he can use as the carpenter uses his hammer and level, the engineer his blueprint, the doctor his medicine kit. Tanks, guns, airplanes, submarines, battleships, ration packages, clothes for the armed forces—hundreds of thousands and even millions of shirts, coats, hats, socks—blankets, tents and all the many thousands of different kinds of things that are necessary to wage a war had to be produced and most of them had to be given a definite color which the government specified. There is no time to send color samples hither and yon in a time of war.

Specifications usually imply that there is a rather universal agreement about a thing for which specifications were written. And color is no exception. Experts in the field of color itself may not agree among themselves about the extremely technical characteristics of color, but to all intents and purposes, so far as the layman is concerned, color can be designated by numbers or by words that have specific meanings. In proof of this, last year, the American Standards Assn. announced a new war standard for color specifications and description of color. Industrialists like the president of one of the world's greatest steel corporations to the owner of a small local printing plant received the announcement of the standard with considerable enthusiasm. An officer of the Quartermaster Corps expressed the belief that the new standard would greatly aid in standardizing colors, one of the great difficulties in procurement. Flannel shirtings, he pointed out, were procured from over 100 different producers. Without any satisfactory standard for color, it was more than likely that just about 100 different shades would result some time.

The questions, of course, arise, "Just how did the American Standards Assn. arrive at a color unit of measurement or practical code? And how does it work?"

To begin with, objectively speaking, color can be measured. It can be measured so that it can be expressed in mathematical terms. That is where the physicist comes in. He doesn't tell the individual how he's going to feel about a color; he simply says that a given color on a surface has reflection characteristics at certain wave-lengths. The average person accepts the basic measurement of the thermometer without question. He doesn't bother to argue that perhaps the measuring rod set up by Fahrenheit is not all that it should

be. But he does know that as a system of measuring whether, at zero degree Fahrenheit, it's advisable to wear an overcoat if he is going outdoors or to leave it off if the thermometer registers 90, it works very satisfactorily. He will also glance at his wrist watch and announce with definiteness whatever o'clock it is. The watch won't tell him whether he's hungry or not, any more than the spectrophotometer will tell a person that the sensation he is experiencing as he looks at red is red. That is not the purpose of the spectrophotometer, the instrument which has been used to measure what color is and does by itself. The spectrophotometer, of which there are several types, analyzes the color in terms of the percentage of light reflected or transmitted by the color. The instrument uses an electronic tube and when a sample of color is placed in the proper place in the instrument, an accurate measurement of the reflections which specify the color is recorded in the form of a curve drawn on a chart. Any color sample can be measured in this way. Different colors make different curves on the chart.

Instrument for measuring color

Although the American Standards Assn. stated that the spectrophotometer was recognized as the basic instrument for measurement in its standard for color, that does not mean to say that there might not be other instruments developed which would be effective in making measurements. Practically everyone knows that temperature may be measured according to Fahrenheit or Centigrade or that in the United States we use the inch and the foot as units of linear measure, but the French use millimeters; Americans travel a mile, but in Europe it is a kilometer. The different methods of measurement may be translated into terms of one another without too great difficulty. Someone or some people worked out the various authoritative ways of measuring different things as well as the instruments and tools to be used and they have been generally accepted. That is what is happening with color—men generally have been a long time actually pinning color down to a definite thing to be measured objectively and then devising an instrument or tool for doing it.

But just having a chart with lines going across the page, other lines going down the page with numbers at the foot reading "wavelength (millimicrons)" and numbers up and down the side where the words "reflectance (per cent)" are printed, and a curve somewhere on it are not *per se* going to help the ink maker keep a constant standard of color for his customers. That chart is still something to be interpreted by someone in a laboratory, to his way of thinking.

So that chart is taken and translated into terms of the subjective sensation, that is, a description of the color in its relation to the human eye seeing it. About a hundred years ago the discovery of how to describe the subjective sensation was made. All the color sensations—purple, brown, pink, etc., etc.—it was found, could be produced by mixing just three basic stimuli, or, in other words, that which would excite action in the human eye, so that the person would experience what is known as color. It would be much the same thing as discovering that an individual could make all the different dishes known to mankind provided he had flour, milk and yeast—that by combining them in different proportions, he could arrive at bread, chop suey, chile con carne, cheese, Yankee potroast or any one of a thousand varying kinds of dishes. Of course, what had to be determined was just what the basic stimuli or ingredients were in terms that could be defined and then how these were to be mixed—what the different recipes were. A cookbook was needed, which would give the list of ingredients and recipes for the various dishes.

Color mixing systems were developed, much as cooks developed recipe books. Different color mixing systems were created for definite purposes. For color mixture today, the American Standards Assn. approves the system internationally adopted in 1931 by the International Commission on Illumination, known in the United States as the I. C. I. system. Some day a better mixture system may be created or developed, but this one has been found to be quite satisfactory. This system provides for the expression of three things about a color (or, to go back to the cookbook, names three ingredients)—which are dominant wavelength, brightness and purity, in mathematical terms. This is a little like expressing the location of New York City, for instance, not as New York, New York, U. S. A., but as lat. 40° 42′ 43″ N and long. 74° 0′ 29″ W and elevation 44.74 ft. The person then knows what relation in location that particular place bears to the entire world sphere. By mixture of these three things—dominant wavelength, brightness and purity—in all the varying proportions, all the colors may be duplicated. Or taking any given color and given the dominant wavelength and purity, that color can be found to be at a particular place in the visible spectrum.

Color order systems

As represented in the diagram, used in the I. C. I. system, one end of the spectrum is red and then it passes through the orange, yellow, green and blue portions to the purple at the other, or the non-spectral region. Thus the color located in the I. C. I. color mixture diagram at a specific place will be known to be in the red, the orange, the yellow, the green or blue portion of the spectrum and what precisely the quality is of that color. All the samples in the world of a collection of swatches that belonged to a manufacturer might be destroyed, but if he had had each one of them located in the spectrum by mathematical computation, he could always have one or all of them duplicated simply by stating their quality in mathematical terms—just as a surveyor can tell a landowner in mathematical terms just where his land is located, in relation to the whole world, that will set that spot apart from every other spot.

This is as far as specifications would have had to go for color, had the above basic method been generally available years ago. But it wasn't. Consequently the American Standards Assn. had to take one step more to come within the scope of the popular conception of color. A system of color order or color organization had to be specified. There are several systems of color order and many theories of color organization, based on the visual relationship of colors, rather than on the painter's palette or on the physical measurement of light alone. Of these, two have been particularly useful because they are well illustrated by carefully prepared color charts. They are the Munsell and the Ostwald systems. The Munsell system was developed early in the twentieth century here in the United States, while the Ostwald system was developed in Germany during the time of the First World War. Neither of these systems negates the value of other systems that aid in understanding or predicting either color or colorant mixtures. Both, however, maintain that the use of color be based on an orderly arrangement of the visual attributes of color. (*Continued on page 106*)

Socony-Vacuum Announces use of Paper container

Socony-Vacuum Oil Co., Inc., announced during the past month that it had concluded arrangements for the manufacture of an all-paper container for petroleum products. This container, a product of the combined research of Socony-Vacuum and J. M. K. Harrison, will be made available to industry generally under licenses to be issued by the General Container Corp. with offices in the Chrysler Building, New York City.

This announcement is significant because it is the first public statement by Socony that it is actually marketing quart units of petroleum products in a paper container, although it has been known generally that Socony has been experimenting with a number of paper containers for several years.

Socony disclosed that for the past nine months it has been using this container for marketing lubricating oil in its Southeastern Division. The company has manufactured and used 500,000 of these containers for itself in the past year and is planning in 1943 to produce them at the rate of 12,000,000 per year. Socony-Vacuum stated that last year it had sold 65,000,000 cans of oil, about 12 per cent of the country's total consumption.

In view of the national need for containers, Socony considers that the package should be made available for manufacture by others to the fullest extent possible. Difficulty, of course, will be obtaining sufficient equipment to supply current demands.

This paper container, in service and appearance, resembles the conventional quart metal can which is no longer available except on priorities for the duration. The container is said to be adaptable for other liquids and dry products.

First samples of this container were manufactured in 1935, since which time many variations of it have been developed to meet current requirements. The container is formed the same as the conventional spirally wound paper container. It can be made and filled with conventional-type equipment for this purpose, with the exception of special machinery required for closing the container.

The container is constructed entirely of various kinds of paper, the majority of them the cheapest grades, according to the developers. Side walls and ends are made entirely of chipboard. A parchment paper lining is used to furnish the oilproofing medium. The same lining is used on the ends of the container so that contents are held entirely within the container proper and not allowed to penetrate any of the component parts, it is claimed. The container is held together by a combination of glues and asphalts to make it waterproof. Certain waxes and lacquers on various parts also help to make the container waterproof. Ends are constructed so that no paper fibres are exposed which are not thoroughly coated with waterproofing materials.

This container for Mobiloil is said to be made almost entirely of non-critical materials, mostly paper of the cheapest grade and chipboard. Protective features include a parchment liner and a combination of glues and asphalts used for seams and laminations—plus special coatings.

The container may be opened by upsetting the lid with any type of opener which will do this conveniently. Ordinary printed paper labels are applied in the same manner as they are applied to any fibre can.

For shipment, the containers are loaded into corrugated shipping containers. Their design is such that they can be packed easily, taking up a minimum amount of space, and, it is said, they are strong enough to be stacked one carton upon another to any practical height.

The containers are said to compare favorably in price with other similar containers made of paper. However, cost is no longer the determining factor in these times. The chief thing is a container made from materials other than metal to hold oil and petroleum products. Oil companies must use containers of non-critical materials today if they wish to continue selling motor fuel and other products in quart units to civilians. M-81, the metal container order, ruled out all metal for this purpose except on high priorities before the end of last year.

The whole subject of paper containers for oils has been one that petroleum companies have been studying for years. At first, this was only a question of economics. If they could find a satisfactory container that was cheaper than metal they would adopt it. In December Modern Packaging this subject was discussed at length. Literally hundreds of substitute containers have been studied. Whether such paper containers will be continued after the war is anybody's guess. It will depend entirely upon their performance for the duration and price competition with metal containers in relation to performance after the war is over.

Self-service meats

Anyone who has stood in line five or six deep at a meat counter on a Friday or Saturday waiting his turn for service knows where the bottleneck is in a modern self-service market.

Many a meat sale has been lost in a self-service market because a customer, tired of waiting, has gone elsewhere to make his purchase. Granted that because of today's serious meat shortage, he may have to go elsewhere to get what he wants anyway. Nevertheless the average family spends about 20 cents of its food dollar for meat products and wherever they spend their money, the men behind the meat counter must take care of the crowds at rush hours and serve them as quickly as possible.

Not until the past two years has serious attention been given to self-service in the meat department. Today this method of selling is even more important. Not only is manpower short, but due to curtailment of delivery service, more and more customers must go to market to make their purchases and carry them home.

At first, chain and supermarket operators did not believe a self-service meat department was possible. The obstacles were obvious. One shopper wanted a pound of this; another a half-pound of that. One wanted the fat trimmed off; another wanted it left on. They all liked to ask questions of the butcher while they bought: "Was the meat tender?" "Should it be broiled or fried?" "How much should one buy for a family of five?" If there was anything more difficult to package and pile for self-service, it was fresh meat—chops, steaks, roasts, etc.

These were sound reasons why a meat department in any store may never be 100 per cent self-service, but they were not good enough reasons to keep a considerable number of larger supermarket operators from converting at least a part of their meat departments to self-service to meet the changing merchandising conditions of a war economy. Among the leaders in the field are the Empire Community Chain of the Shaeffer Stores, Schenectady, N. Y.; The First National Stores of New England; the Great Atlantic and Pacific Tea Co. in several towns in New England, Connecticut and Long Island.

The system has been tried for almost every kind of meat—luncheon meat, steaks, chops, roasts, legs of lamb—dressed or cut poultry—anything, it is said, which can be wrapped and priced in advance.

The meat is cut, trimmed for scale, weighed, price-tagged, wrapped in cellophane or in other suitable paper, preferably

Front view of a self-service case in operation in a store. The meats are easily accessible to the customer so that she can make her selection from a wide variety in the open display. The cases also make it easy for the merchant to keep the stock up during rush hours and avoid tiresome waiting on the part of shoppers.

transparent, and placed in an open refrigerator case. Open display refrigerator cases keep the meat in excellent condition at temperatures well below 40 deg. F.

The meat is not trimmed ready for the pan as are most pre-cut, quick-frozen meats. Three or four men working all day in the cutting room can prepare more meat for a 12-ft. service case than they could possibly do behind the counter cutting first a quarter of a pound of steak and then a roast, then three or four chops. With self-service, the average meat cutter should be able to do almost twice as much cutting as with clerk service. Furthermore, such cutting can be done during slack times and slack days for storage in the walk-in cooler, ready for the self-service case as required. Less skilled labor can be employed to do the weighing, wrapping and price marking.

Wrappings are secured with cellulose tape. Possible discoloration of steak on the bottom where it touches the cellophane has been successfully prevented by use of a parchment liner. In some markets, a cardboard stiffener has been placed under steaks and other juicy meats to absorb blood, but this practice is not used in all installations and may not be necessary.

The name of the cut, the weight, price per pound and total price of the packaged item are marked on a printed tag placed inside the transparent wrapper. The meats are arranged attractively in the display cases. It has been found there are several things the store operator must know about arrangements. Chops, for example, sell better when spread out flat in the packages where each chop can be seen, than when stacked on top of each other leaving only the top chop visible. The old visibility appeal holds true here. The shopper likes to see what she is getting.

In many markets. self-service meat sales amount to more than 20 to 30 per cent of total sales in the meat department. As the self-service becomes better known, these percentages increase. Women must first be assured that the packaged meat is the same quality as that which they buy at a service counter. Customers must be assured on that point, because it is one of the important factors in the success of a self-service meat department.

Customers interviewed like self-service packaging of meats first because of the speed. "This certainly saves waiting in line," they say. They also like it because they can see what they are getting. Women like to help themselves and they appear to be as interested in going over the packages of meat as they would be at a lingerie counter in a department store. In one store, this problem is taken care of by a stock boy, who checks over the case every half hour, straightens it up and restocks it from the walk-in storage cooler, when certain items are sold out.

Customers who object to self-service are those who prefer to have their meat cut to order or those who question whether the packaged meat is the same quality as that of the service department meat. Confidence, however, is being built up quickly as shoppers learn more about the service and when they find that the packaged meat is exactly the same quality as that sold in the clerk-serviced departments. The current meat shortage, when people take any fresh meat, so long as it's meat, may help to build up greater acceptance for the packaged self-service meats. Customers will take it, when they cannot get other special cuts. They will find out that it is the same as that which they purchase while they stand and talk to the meat cutter as he saws it off.

Excellent equipment has been designed for this purpose. The only trouble is that those who do not have it on hand, will

Meats are cut ahead, wrapped in sanitary, attractive packages, weighed and priced, then put into this unit which keeps foods safely refrigerated yet readily available to customers, so they have plenty of time for selections.

have difficulty in obtaining new units for the duration. The top of the cases provides an excellent space for displaying glassed packages of chicken, pigs-feet, deviled ham and other packaged merchandise sold in a meat department. In some cases, dairy cases, due to shortages in those lines, can be adapted for display of self-service meat. The top front of the cases is left open at all times. All the customer has to do is reach in the case and obtain the articles she has decided upon.

Despite the loss of refrigeration due to this arrangement, the temperature inside the case is maintained to about 40 degrees, even in the hottest weather. The case is so designed that the heavy cool air pools and collects within it, just as water stays within a pail, without spilling out at the open top. No difficulty has been encountered in keeping the meats in perfectly salable condition.

Management has accepted self-service meat selling for its labor saving advantages principally. It has materially relieved the strain on other sections of the meat department during rush hours, according to leading operators, and eliminates long customer waits. It also permits the customer in a hurry to help herself and thus helps the store to retain what otherwise might be lost business. Self-service has proved a real value in selling small cuts, particularly cold cuts—also bacon, frankfurters and sausages. Such sales through self-service, help to keep down congestion in the

One of the small units which is being used in the large supermarkets. This unit contains bacons, hams, sausages, chops and other similar items.

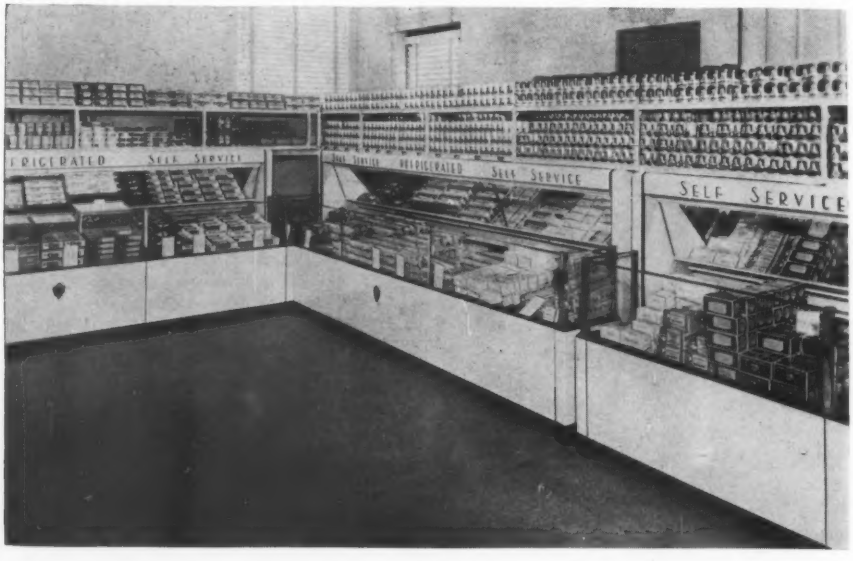
store and to aid in improving the dispositions of clerk and customer alike.

The impulse sales value of the self-service case cannot be overlooked. Some markets have noticed that a shopper will switch more readily in meat self-service from an item she has decided on to another on display than she will at the regular service cases. It has also been noticed that a customer will often help herself to one or two items out of the self-service case and then complete her meat purchases at the regular cases. Sometimes she goes to the latter first, then picks up a few additional items at the self-service counter. This appears to be impulse buying because the same items are sold in both cases, except that those in the reach-in case are packaged.

In some markets to assure the customer of quality products in the packaged cases, the meat is cut out in the open where the customer can see this operation. There are no exceptions to this rule in these stores, whether the piece of meat is for sale from the self-service case or the regular cases. No customer need ever leave the market wondering if the fricassee chicken under her arm is really the one she picked out and paid for.

Like in other self-service merchandising, meat selling in this manner also marks meat subject to shop-lifting. During the present situation of scarcity, meat becomes something worth smuggling out in a coat pocket or a handbag. To guard against this, some stores have a wrapping department immediately adjacent to the self-service meat counter so that the attendant may watch the case.

Whether the self-service idea for meats will please the men who have spent much time and money learning the meat-cutting trade is still a moot question. It is the same question which has accompanied the introduction of all labor-saving machinery and (*Continued on page 112*)



This self-service section in a supermarket is devoted to dairy products. Milk, butter, oleomargarine as well as a variety of cheese are displayed.

New cellophane restrictions

PART 1015—CELLOPHANE AND SIMILAR TRANSPARENT MATERIALS DERIVED FROM CELLULOSE

[Limitation Order L-20 as Amended Jan. 4, 1943]

Section 1015.1 *Limitation Order L-20* is hereby amended to read as follows:

§ 1015.1 *General Limitation Order L-20*—(a) *Definitions.* For the purpose of this order:

(1) "Person" means any individual, partnership association, business trust corporation, governmental corporation or agency, or any organized group of persons whether incorporated or not.

(2) "Supplier" means any manufacturer, converter, jobber, dealer, printer and other person who directly or indirectly delivers cellophane or similar transparent materials derived from cellulose to the users enumerated in paragraph (b).

(3) "Cellophane or similar transparent materials derived from cellulose" means cellophane or similar transparent materials derived from cellulose having a gauge of less than .003″, and cellulose caps or bands of any gauge.

(b) *Restriction on use.* Subject to the provisions of paragraphs (i), (j) and (k), no person shall use cellophane or similar transparent materials derived from cellulose for the packaging, sealing or manufacture of the materials included in the following categories:

(1) Cosmetics, soaps, and cleaning materials, except as provided in paragraph (c) and except as a replacement of metal for collapsible tubes for toothpaste.

(2) All textiles, but not including bandages, sanitary swabs, and typewriter ribbons.

(3) All rubber and rubber products, but not including use as a substitute for Holland Cloth in the backing of retreading stocks for tires, as a protective cover for cement on tire reliners and patches, and as a wrapping on friction and rubber tape.

(4) All hardware, metals and sporting goods, but not including use as a protection for precision metal parts.

(5) All paper and paper products, including cellulose backed adhesive tape for household purposes.

(6) Glassware including optical lenses, and jewelry.

(7) Candles and wax products, except as provided in paragraph (c), and except the use of cellulose sheeting as a replacement for metal containers for industrial oils and greases.

(8) Electrical equipment, but not including any use in the manufacture of such equipment.

(9) Wood and wood products, but not including medical tongue depressers and swabs.

(10) Leather and leather products.

(11) Bottle overwraps of any sort.

(12) Bottled beverages, with the exception of cellulose bands and caps for wines, alcoholic liquors, and fluids of high volatility.

(13) Bottled foods, except as provided in paragraph (c).

(14) Canned goods of any sort.

(15) Flowers, plants, seeds and grains.

(16) All decorations and novelties.

(17) Bowl and basket covers, household dyes, household rolls, soda straws, sewing supplies, garment covers, toys and games, pipe filters, coin wrappings, natural and cellulose sponges, printed doilies, hair waving equipment, brake linings, molding materials, window covers, photographic films (wrapping), milk bottle hoods, and jiffy seals.

(18) Putty and paint, except as provided in paragraph (c), and except the use of cellulose sheeting as a replacement of metal containers for putty and paint.

(19) Plastic products, but not including toothbrushes and any use in the manufacture of plastic products.

(20) Drug products, chemicals, and antiseptics, except where necessary for the protection of the product itself.

(21) Candy products and chewing gum, including box overwraps, but not including other use where necessary for the protection of the product itself.

(22) All animal foods.

(23) All insecticides and rodenticides.

(24) Tea, spices, peppers, condiments, sugar, flour and unshelled nuts.

(25) Carton overwraps for other dried food products, including but not limited to peas, beans, rice, barley, and lentils; macaroni, noodles and similar paste goods; cereal, cooked and uncooked; and dessert and drink powders.

(26) Window cartons and window bags for all products, including foods listed in paragraph (b) (24) above, but excluding all other food products (including confectionery).

(27) Cigarettes, except where foil is omitted from the package.

Provided, however, That no person prohibited from using cellophane or similar transparent materials derived from cellulose by the provisions of this paragraph (b) shall secure such materials in gauges of .003″ or greater as a substitute for prohibited thinner gauges.

(c) *Metal top replacement exemption.* Notwithstanding the provisions of paragraph (b), cellulose caps and bands may be used as a metal replacement for the packaging of liquid or paste soaps, industrial oils and greases, bottled foods, putty, and paint, if the cellulose

cap or band serves as a primary closure to a glass, ceramic, or paper top. Disc inner liners of cellulose film may be used also for paper tops to containers for these same products.

(d) *Restrictions on deliveries.* No supplier shall knowingly, directly or indirectly, deliver or cause to be delivered any cellophane or similar transparent materials derived from cellulose, and no person shall accept the same to be used for packaging or manufacture of any of the materials listed in paragraph (b), unless such packaging or manufacture is exempt under the provisions of paragraphs (c), (i) or (k).

(e) *Inventory restriction.* No person shall accept delivery of cellophane and similar transparent materials derived from cellulose if the amount accepted together with his inventory of such material then on hand shall exceed a forty-five day supply, having regard to the orders placed with such person and his current method and rate of operation;
Provided, however, That the restrictions of this paragraph (e) shall not apply to acceptance of deliveries of fifty pounds or less of cellophane and similar transparent materials derived from cellulose by any person whose inventory of such materials at the time of such delivery is fifty pounds or less.

(f) *Partial restrictions on use.* (1) During the calendar quarter commencing January 1, 1943, and during each calendar quarter thereafter, no person shall use cellophane or similar transparent materials derived from cellulose in the packaging or sealing of cigarettes, cigars, and chewing tobacco in an amount in excess of 90 per cent of 1/4 of such person's consumption of such materials for such purpose during the entire year 1942. During the calendar quarter commencing January 1, 1943, and during each calendar quarter thereafter, no person shall use cellophane or similar transparent materials derived from cellulose in the packaging or sealing of smoking (pipe) tobacco in an amount in excess of 90 per cent of such person's consumption of such material, for such purpose during the fourth quarter of 1942.

(2) During the calendar quarter commencing January 1, 1943, and during each calendar quarter thereafter, no person shall use cellophane and similar transparent materials derived from cellulose in the packaging or sealing of bakery products in an amount in excess of 90 per cent of 1/4 of such person's consumption of such material for such purpose during the entire year 1942; *Provided, however,* That any person n ay consume 50 pounds of such materials for such purpose during any calendar quarter without restriction.

(g) *Notification of customers.* Any person who is prohibited from, or restricted in, making deliveries of cellophane or similar transparent materials derived from cellulose by the terms of this order shall, as soon as practicable, notify each of his regular customers of the requirements of this order, but the failure to give such notice shall not excuse any customer from the obligation of complying with the terms of this order.

(h) *Monthly reports.* Each converter, agent, fabricator, jobber or similar supplier acting as direct or indirect sales agent for any producer must, by the tenth day of each month, submit to such producer a report of his sales during the preceding month of cellophane and similar transparent materials (other than waste material as defined in paragraph (i) hereof) purchased by such agent from such producer, classifying sales according to industry (such as candy and chewing gum industry, baking industry, drug industry, tobacco industry and other specifically named industries) and stating as to each class the total number of pounds sold and the number of pounds sold for civilian use, for military use, and for Lend-Lease. Each producer shall keep records of such reports available for inspection by representatives of the War Production Board. Each person affected by this order shall file such other reports as may from time to time be required by the Director General for Operations.

(i) *Waste material exception.* Nothing contained in this order shall prohibit the sale or delivery of off-grade or waste cellophane or similar transparent materials derived from cellulose (known as roll end trim and rejected or defective rolls and sheets), but producers and suppliers of cellophane and similar transparent materials derived from cellulose shall report to the War Production Board by the tenth day of each month the quantities of such material sold or delivered during the preceding month and the recipients thereof.

(j) *Existing stocks exception.* No restriction with respect to use contained in paragraphs (b) or (f), and no corresponding restriction with respect to delivery contained in paragraph (d), shall apply to any stock of cellophane and similar transparent materials derived from cellulose which, at the time when such restriction was first imposed by this order, was:

(1) In the hands of a user; or

(2) In the hands of a supplier and was so cut, processed or printed as to render impracticable its use in a manner not subject to restriction under this order.

(k) *Military exception.* The restrictions and requirements contained in this order with respect to cellophane and similar transparent materials derived from cellulose shall not apply to the United States Army. Navy, Coast Guard, Maritime Commission or War Shipping Administration, or to any person using, delivering or accepting delivery of cellophane and similar transparent materials derived from cellulose pursuant to a contract with or a subcontract for the United States Army, Navy, Coast Guard, Maritime Commission or War Shipping Administration. *Provided,* That, where this material is not used in connection with implements of war the primary contract specifically requires the use of such material or of a transparent wrapping material. Persons having such contracts or subcontracts shall nevertheless file reports as required by paragraphs (h) and (i).

(l) *Miscellaneous provisions*—(1) *Applicability of priorities regulation No. 1.* This order and all transactions affected hereby are subject to applicable provisions of War Production Board priorities regulations, as amended from time to time.

(2) *Violations.* Any person who wilfully violates any provision of this order, or who, in connection with this order furnishes false information to the War Production Board is guilty of a crime, and upon conviction may be punished by fine or imprisonment. In addition, any such person may be prohibited from making or obtaining further deliveries of, or from processing or using, material under priority control and may be deprived of priorities assistance.

(3) *Appeals.* Any appeal from the provisions of this order shall be made by filing a letter in triplicate, referring to the particular provisions appealed from and stating fully the grounds of the appeal.

(4) *Communications to War Production Board.* All reports required to be filed hereunder, and all communications concerning this order, shall, unless otherwise directed, be addressed to: War Production Board, Chemicals Division, Washington, D. C.; Ref.. L-20.

(P.D. Reg. 1, as amended, 6 F.R. 6680; W.P.B. Reg. 1, 7 F.R. 561; E.O. 9024, 7 F.R. 329; E.O. 9040, 7 F.R. 527; E.O. 9125, 7 F.R. 2719; sec. 2 (a), Pub. Law 671, 76th Cong., as amended by Pub. Laws 89 and 507, 77th Cong.)

Issued this 4th day of January 1943.

ERNEST KANZLER,
Director General for Operations.

[F. R. Doc. 43-172; Filed, January 4, 1943; 12.04 p. m.]

Paper lug cap on glass tobacco jar

Tobacco packaging has come a long way since the days when grandpa whittled a few slivers of "baccy" from his twist or plug and rubbed them in the palm of his hand. The acme, probably, was the metal can, hermetically sealed with a tight friction type plug cap. It might have stayed that way for another decade had not the war come along.

The War Production Board, however, decreed that metal for tobacco packaging was not so essential as metal for shell casings which could be made with some of the same machinery and when the trade turned to a glass jar container and metal cap, even the cap was off—for the war.

With that problem on its hand, the P. Lorillard Co. turned to find a new material that would take the place of the metal cap, and in a pressed cardboard cap, found the method which "keeps tobacco in better condition than any other substitute for the metal container."

The new paper closure is lug type and fits over a standard finish glass jar. It consists of four pieces glued together. A paperboard disk which covers the top of the jar, two paperboard rims to give depth to the skirt of the cap and a bottom rim which contains the lugs. These lugs secure the cap over the interrupted thread on the jar finish. Trade identification is printed on a paper disk covering the top of the cap. Construction of the skirt is concealed by a paper covering also.

The company tested both glass closures and paper closures before making a decision that the paper cap was most practical for this purpose. The glass closure had a tendency to ride away from the jar as soon as the cellulose tape used to hold it on was removed and thus did not give so much moisture protection for the contents after the package was once opened. This is an important factor from the standpoint of the user, who usually stores the tobacco until it is used up in the container he buys it in and expects it to afford protection.

The attractiveness of the well-labeled glass jar in which Lorillard now packs 1-lb. and 1/2-lb. packages of Union Leader and Briggs does, by the way, a most effective sales job. It seems that "Mister" likes to see what he is buying in the way of tobacco just as well as "Missus" likes to view her peas and peaches. In addition, the glass jar with its effective cap is excellent for re-use, either by the man of the house as a humidor from which he can fill his pocket pouches or by the kitchen chief who "needs that" for a refrigerator.

The glass jar with its new lid has as effective properties for moisture retention as has the can. It stacks handily and is filled with little more difficulty than was the canister. It is labelled Lorillard's "Victory Package" with the statement that it is produced in keeping with the government's program of conservation of essential metals.

Additional problems of using the glass jar, of course, are the matters of pasting on the labels, extra shipping weight and breakage. The label job is done by hand for the present and the additional freight costs are currently being borne by the packer. The fact that the glass jar breaks if handled too roughly is something that the transportation companies and the retailers have to face—and after a few "experiences" they will probably have that one conquered, too.

With Lorillard's own metal container plant turned to war work, the likelihood of a return to the canister is still much of a moot question. It depends to some extent upon the public's final acceptance of the glass package—and this is still too young for a final decision.

The metal container for large packages was not the only sacrifice laid on the altar of Mars by Lorillard. The familiar pocket-size tin also had to go and (*Continued on page 110*)

The old (left) and the new container (right) for Briggs pipe mixture. The paper lug type closure fits on a standard finish glass jar. At right is shown the closure, illustrating the particular construction used.

Slide closure for talc

From Canada comes this dispensing device on an all-paper container for talcum for men. It is very simple in construction and the user finds it is equally simple to work. At one end of the carton is a row of perforations through which the powder is shaken. A small wooden bar is affixed to an inner piece of cardboard and a cut-out portion of the top of the box allows the bar to be pushed back and forth to close or open the perforations at the end of the box top.

Since metal has been severely restricted, there have appeared a variety of paper containers for talcum powder and a number of dispensing devices. The United Drug Co., Ltd., of Toronto, Canada, however, believes that its Bachelor Talc is the first to appear in Canada with this particular kind of carton and dispenser. It has been distributed among 1,100 Rexall Drug Stores in Canada, the company reports, and not a single complaint has been received regarding the efficiency of this wartime package. From all indications it has been found an entirely satisfactory substitute for the former container, manufactured before shortages and restrictions forced their Bachelor Talc into its new dress.

As becomes a container for the present day, the accent is on function with no packaging frills, but good straightforward design. Color scheme is confined to two and the lighter band at the top draws attention to the dispenser which is painted the same tone as the bottom panel of the box. Only decorative feature is the silhouette of the head of a man, which is a trade mark character. Brand and product identification appear on the front.

Credit: Container by A. E. Long Co., Ltd.

DESIGN HISTORIES

Bag-in-box

Marshmallow Rich is a kind of mixture much used by confectioners. It is also the topping for that marshmallow sundae bought at the corner drugstore. Up to the present, tin was found to be just about the only material that would package the mixture satisfactorily. Entrance of moisture into the container makes the product gluey. Therefore, when the Richardson Corp. were looking around for a substitute for their former 5-lb. tins, they had to find one that would be moisture-vapor-proof and at the same time economical and practical.

After many experiments with various papers and cartons, they finally hit upon this bag-in-carton. The bag is a triple-lamination of moisture-resistant cellophane and it is heat-sealed at the ends as well as at the center seam. When the bag is placed in the carton, the corners are folded over so that a solid square pack is formed.

A corrugated carton makes up the rest of the package. It is of light-weight corrugated material with double flaps which fold over at the top and the bottom. In order to dispense the marshmallow mixture, it is not necessary to remove the bag from the carton at all. One of the corners of the bag may simply be cut off. The user just holds the box under one arm and guides the mixture out through the aperture in the bag. When he has removed the amount he needs, he folds down the edge of the bag and closes the carton flaps. The product is well protected until the container is again opened for use.

Credit: Bag by The Dobeckmun Co. Carton by The Hinde & Dauch Paper Co.

Pack for vitamins

Neither too masculine nor too feminine is the design for the Panates box, which has a showcase-like character. Panates are a dietary supplement consisting of tablets and capsules. Ordinarily these types of products do not lend themselves to particularly attractive packaging, but The Panate Co., makers of the products, wanted to create an entirely different kind of package—one that would afford good usage throughout the three months' period during which it would be needed by the purchaser and, at the same time, a box that would maintain its attractiveness on counter or home bathroom shelf. The company believes it has found a unique container with a great deal of sales appeal in its present one. Sales of Panates have increased steadily since the introduction of the new package some months ago, officials of the company state.

A flat, hinged top set-up paper box has a die-cut platform that is raised above the sides of the bottom. Into the cut-out portions of the platform, fit the two round white boxes, filled with tablets. These have tops of cellophane which permits the tablets to be seen and at the same time protects them. Above and below the white boxes are long cellophane bags that hold the capsules of wheat germ oil and these fit into their cut-outs.

The most important thing the company wanted to impress upon the consumer was the name, "Panates." To do this, the designer of the box printed the word as a background pattern on the dark red label on the box top. The same word pattern was then repeated in the label for the inside of the top.

Credit: Complete package by F. N. Burt Co., Inc.

DESIGN HISTORIES

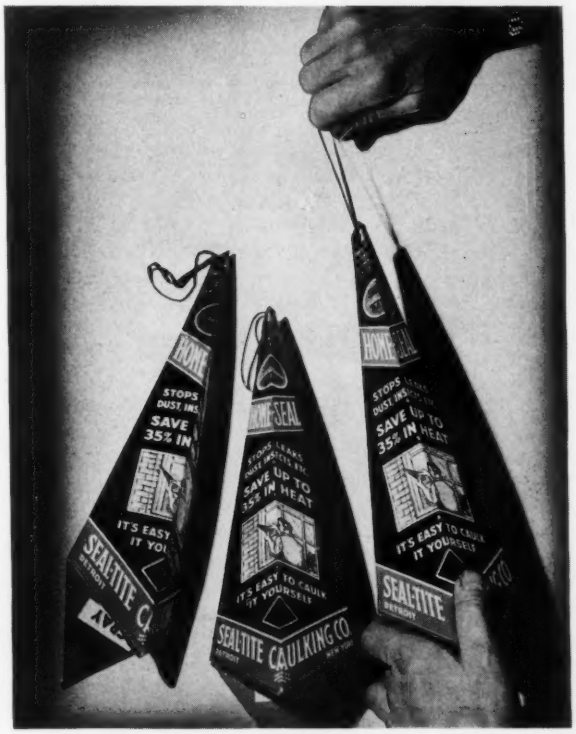
Paper caulking gun

A tightly sealed house will save a great deal of heat and with heat at a premium for users of oil burners particularly, it is important that houses and apartments be kept as free from drafts as possible. Caulking around windows and doors helps to keep rooms at constant temperatures, cutting down on the amount of needed heating. For many years, the Seal-Tite Caulking Co. had put out its product for sealing around windows and doors, as well as for other caulking purposes, in a metal gun.

As soon as metal was prohibited for these guns, the company turned to paper as a solution to their container problem. They felt that the importance of the product itself warranted considerable research to find as satisfactory a substitute for their metal gun as possible. The paper gun finally arrived at works on the principle of the old-fashioned bellows. The gun is four-sided, but shaped like a pyramid, whose base forms two sharp points. The user of the gun pulls a cord at the top which releases a plug, then presses at the bellows end to dispense the caulking material. At intervals along the ridges of the gun are red bullets which show where to press in order to get the proper flow of the sealer as the material is used, pressure being applied in the same manner as that for squeezing toothpaste out of a tube.

The paperboard gun is just part of the complete container. The caulking material is placed in a bag which fits inside the gun. An advantage this package has over the metal ones is that the gun is delivered loaded so that there is not the mess or bother formerly encountered when consumers had to fill their own.

Credit: Outer container by Industrial Packaging Co., Inc. Inside bag by Benj. C. Betner Co.



A red velour mask ties in with the packages when they are displayed.

Are women tired of pastels?

Warm, heavier colors set these de Raymond cosmetics apart from the conventional pastel shades for such packages. The Deviltry series of Parfumerie de Raymond has a black and red color scheme while the trio of eau de cologne, called Personalities, are packed in a box with a rich plum and white theme. Formerly Deviltry was not given any special treatment, but came in a general box along with other of the company's fragrances. The Personalities trio were an established product with their own personalized box, but de Raymond felt that something was needed to enliven them. The round box was printed in three colors, softly pastel, and a typically traditional theme had been used—the rainbow. It was not different enough to distinguish it from a hundred other daintily printed eau de cologne packages to be seen on the counters of toiletry departments. In selecting a deep-toned, rectangular box with a darker hued ribbon tie, for the three colognes, de Raymond evolved a container that is unique and stands out against the competition of packages in pastel tones.

An interesting association of ideas is brought about in the line of Deviltry boxes. Around the subject of a traditional masquerade ball are a small number of immediate associations—a mask, streamers of ribbon, black and red beauty patches, lace and net, confetti, gay, young girls. De Raymond took these familiar memories of a rollicking party and wove them together for the decorations for a series of containers with lots of sparkle and eye appeal There are two types of eau de toilette—one a rectangular box, the other square-sided. The former lends itself to the outline of a face on the top. The artist did not try to make a realistic drawing of the face of a pretty girl, but in bold, flowing strokes outlined half of the face. One black, sparkling eye gazes out at the shopper, the other is covered by a bright, red mask. Black and red streamers and confetti are scattered casually about over the top and sides. The entire box lid is in red which is lighter on top and gradually grows darker around the edges of the sides of the lid. Base of the set-up box has an extension edge, tight-wrapped in a deep red paper decorated with an all-over black lace pattern. When the box lid is on, the extended base with its darker red adds a definite finish to the whole.

The bottle for the eau de toilette is diamond shape with deep flutings at top and bottom and a raised square patch of glass upon which the de Raymond label is placed. For a closure, a pink plastic screw-on cap is used, which is molded to represent tiny, fan-like blades. The ridges extend down

the sides of the closure and make it easy to grip with the fingers. With the bottle comes an atomizer, packed in a special die-cut platform at the end of the base of the box.

Another eau de toilette has two sides that are almost square, leaving a center spot for a red mask with the name de Raymond above in black lettering On the top of the lid is the word, Deviltry, with decorative bits of ribbon and confetti. The bottle stands upright in the base. There is little chance of the bottle tipping over since the bottle is molded with both vertical and horizontal ridges and the die-cut platform fits snugly about the ends of the bottle and is cut so that notches fit into the vertical indentations. Instead of a pink, plastic closure, this bottle has one of yellow plastic. The extended base of the box is wrapped in the same type of paper as that for the other eau de toilette box.

Deviltry perfume is put up in three different size bottles, but they are all the same shape—flat, rectangular ones with flat, rectangular glass closures. Small gold colored labels are printed in red. The two larger sizes are packaged in oval set-up boxes, the small one in a cylindrical box. Particularly effective is the way the base of the boxes have been treated. It is shallow, just deep enough to hold the chair-like platform which supports the bottle. The paperboard platform is cut and folded in such a way that it furnishes a recess for the bottom of the bottle and a back and arms. Then the paperboard has been draped in glistening red rayon satin so that when the bottle is in place, it appears to be in a kind of theatre box. Red is also the color of the extended edge of the base, which has gold-colored sides.

Repeated in the top of the lid is the red rayon satin. It is Dutch-top and padded to give it a soft, luxurious feeling. Edges at top and bottom are bound in gold-colored paper. On the face of the lid is the outline of half a face of a girl with the other half masked. But a touch of realism is given by having the mask cut from a piece of velour paper. Decidedly different is this combination of paper and fabric and particularly appealing to touch.

Eye appeal has, of course, played the major role in the creating of packages for cosmetics—that together with certain necessary functional requirements. But there are many packagers of toiletries who have been quick to capitalize on the sense of touch. If a package feels luxurious, soft, smooth or has other qualities which appeal to sensitive fingers, it has added sales appeal, it has been found by many makers of cosmetics. The Deviltry boxes with their smooth paper, rough velour and soft satin illustrate how effectively sight and touch appeal may be developed in a package. The smallest Deviltry bottle of perfume has a container which would have seemed over-decorated if the drawing of the face and the mask had been used, so the designer very wisely eliminated the face and used only the tiny velour mask Too, the small bottle would have been lost against a satin-covered support, so only the raised platform with a recess in the center is draped with the red rayon satin.

Makers of Deviltry report that since this line has been packed in its own special container, it has become a success. Sales have increased almost at once with the featuring of the new package with its warm, gay colors and its definite eye appeal.

Although de Raymond's Personalities use equally heavy tones, the design treatment is so very unique that the trio of colognes have a complete individuality of their own. A lid in plum and white rests on an extended edge base which is wrapped in gold-colored paper. The entire background of the lid is plum with the majority of the decorations in white. The theme is that of a party, but nothing at all like the suggestions of the party which illustrated the Deviltry boxes. The design for Personalities is surrealist. There are clouds and flowers, and masks and hearts and hands and wings. These all go floating around the sides of the box in a fascinating kind of way. A ribbon is tied in a bow on the box top and adds a further decorative note.

Special die-cut platform holds the three bottles in place. They are not set in a straight row, but on a slant so that the shopper can get a good look at bottle and label without removing the bottles from the base. Pink, yellow and blue plastic caps are used for closures.

For those who are worried that elimination of a wide variety of color selection may limit their packages' possibilities, this story about (*Continued on page 104*)

This box for the de Raymond Personalities is printed in one color, illustrating how a successful package can be made with limited color and without frills. The design is carried out in white and is done in surrealist fashion.

1

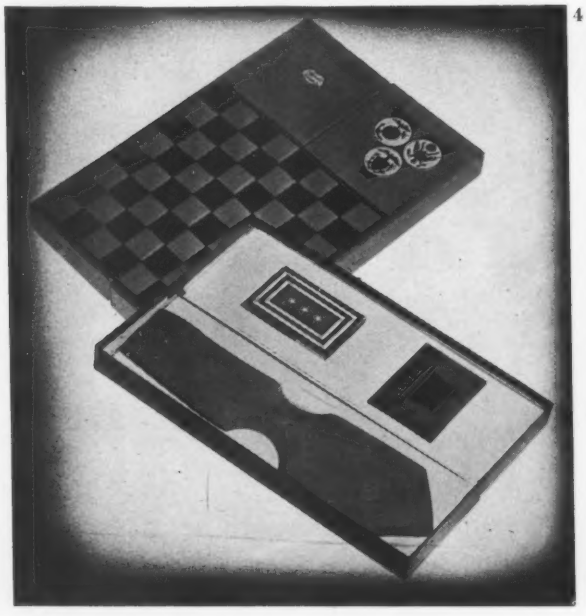
2

1 Ring travelers are heavy and thousands of extremely small units must be packed in a container. A box which has been filled to the brim will settle. It is, therefore, necessary to pound and shake these boxes well while filling so that the box when it is ready to be shipped will be full to the brim. This pounding requires an exceptionally strong box. When the metal container (shown on the left in the photograph) formerly used by the Carter Traveler Co. for their traveler rings had to be discontinued, the company began packing the rings in the paper boxes (shown at right) which have a heavy outside base of vat board with an inner tray of heavy chipboard. Boxes by Old Dominion Box Co.

3

2 Make-up cake and face powder that match have been a popular single pack item with many women. Jergens is now putting up matching shades of face powder and make-up cake in a "Twin Make-up" box. The familiar Jergens face powder box is used with a space left for the make-up cake.

3 A lace table-cloth box used by the Patchogue-Plymouth Corp. actually holds a lace table-cloth, made by that corporation. The lacy pattern edges the wrap on the box top and gives a realistic effect. A center panel in brown has all the necessary information and an illustration of the company's attractive trademark, showing a Colonial interior. Boxes by Shampain, Citron, Clark, Inc. Wrap by Consolidated Lithographing Corp.



4

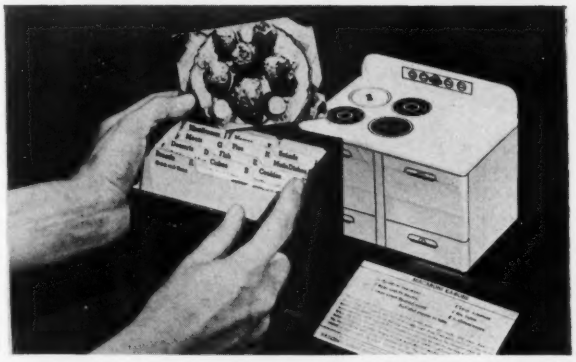
5

PACKAGING Pageant

6 7

4 A manufacturer of men's neckwear, Superba Cravats, knew that checkers were played a great deal in the army and navy. When searching for a novel re-use gift box for men in the armed services, it occurred to the company that a checkerboard gift box would be just about as acceptable as anythnig they could think of for the men. The box has a full flange cover, so that the two halves of the box can rest evenly on the table when it is used as a game. Box by Harold A. Cowles Box & Display Co.

5 Manufacturers seeking new ways to increase shipping efficiency and meet conditions imposed by overloaded transportation facilities will find several timely ideas in the new corrugated shipping box developed for Sam Moore Chairs, Inc. Constructed to form an L-shape box, the new pre-pack makes it possible to nest packed units and consequently to load approximately 30 per cent more chairs per truck or freight car. Shipping box by The Hinde & Dauch Paper Co.



8

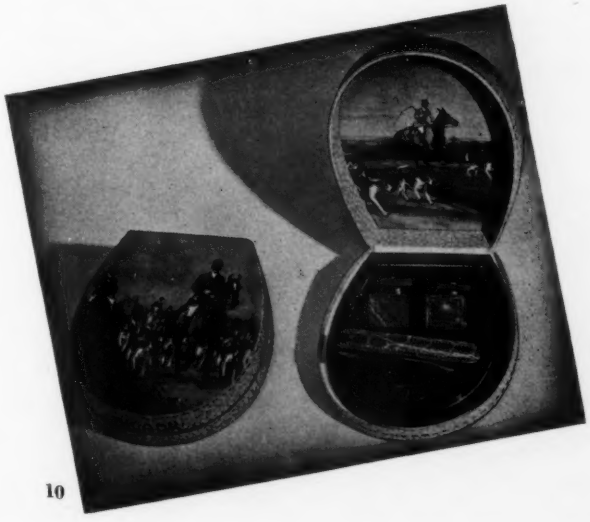
6 A package to bring out the attractive details of the interesting bottle is this box for Solon Palmer's Dress Parade Perfume. With a shiny black closure and a label that is worn like colors across the chest, the bottle resembles a kind of stylized officer on dress parade. The box furthers the theme with a tall top which simulates the crown of a dress parade hat. Bottle, Carr-Lowrey Glass Co. Cap, Schutz Bros., Inc. Labels, Richard M. Krause, Inc. Box, Shoup-Owens, Inc.

9

7 Wax paper, cellophane and a printed paper collar make Edna Cast's date plum pudding look like the old pudding bags that great grandmother had for her puddings. The pudding is wrapped in the wax paper and the lithographed collar is placed around it. Wrap by Crown-Zellerbach Corp.

8 A miniature stove goes from metal to paper to make the new Victory Recipe File. The tiny box resembles a modern electric or gas range with cleverly sketched indications for oven, broiler and other gadgets. When the top of the box is removed, a well indexed file of recipes is revealed in a handy container. Box by Davis Paper Box Co.

9 More candy which had depended upon the keeping qualities of tin, but which is now going into paper are these mints, cheese snacks and peanut flakes of the Elmer Candy Co., Inc., of New Orleans. New packs are the familiar cylindrical two-piece containers, often used for cream cheese and the like.



10

10 The Swank DeLuxe Hunt package of 1942 is a real war product. Before, the Swank jewelry set, manufactured of metal, was packed in a metal jewelry container. Today both product and container are now made of non-essential materials. Gift box has a horseshoe motif and is decorated with saddle stitching and hunting scenes. Boxes by Karl Voss Corp.

Save tin—help to win campaign for metal salvage

Steel that will go into tin cans for civilian foods in 1943 would be enough to make 22,900 medium tanks, according to Secretary of Agriculture Claude Wickard.

Much of that steel and the tin that goes with it in cans may be reclaimed if housewives can be given a constant reminder to save the cans.

One night recently two food men were discussing how this might be done and out of their tablecloth sketching and discussion in the restaurant of a Chicago Hotel came the idea for the "Salvage for Victory" seals to be imprinted on labels of all canned foods.

The man who initiated the idea was Willard Eliel, vice-president in charge of production of College Inn Food Products Co., and his company was among the first to imprint the seals on all the canned tomato juice manufactured by this company. Curtice Bros. Co., Rochester, N. Y., also was among the first to include a "Help to Win—Save This Tin" seal on its canned tomatoes.

Theory behind the idea is that every possible bit of metal recovered means just that much more available for the war effort and for the packaging of foods that can be made available in cans for civilian consumption.

Emblems of the seals display a series of five pictures illustrating military equipment, including a sketch of a tank, a plane, a gun, bombs and a liberty ship—all equipment which requires the use of steel in its manufacture. Opposite the design appear the words "Salvage metal from cans helps build tanks—or planes, or ships, or bombs." Prominent in the center of the seal are the words "Salvage for Victory." Beneath that are complete instructions for preparation of the cans for salvage purposes as follows: "Remove label. Wash can clean. (Dry) Remove both ends. Place inside and flatten can. Save." The emblem is surrounded by a circle of stars with two alternate red and white stripes at the bottom of the seal.

Use of these seals has the endorsement of the Conservation Division of the War Production Board. Samuel A. Dalton, executive assistant of the Conservation Division of the WPB, said concerning the plan:

"The sketch of the design which this company (College Inn) intends to use seems to us about the best thing we have seen so far that can be used to tell the story. We, of course, do not wish to restrict any users to any specific design. However, if they vary as to wording, a sketch should be shown to us for approval, as you can appreciate any incorrect instructions would be very confusing to the housewife."

The plan was endorsed by the Label Manufacturers National Assn. at its annual convention and this organization will send samples of the seals with their slogans, "Salvage for Victory" and "Help to Win, Save This Tin," to any company interested in cooperating in the program. Information may be obtained by writing to the Label Assn. headquarters at 1700 Eye Street, N. W., Washington.

A canning industry committee to steer the campaign is planned for the future. In the meantime, inquiries and suggestions may be sent to Mr. Eliel at College Inn Food Products Co.

The proponents of this plan believe that if they want housewives to take the four simple steps in salvaging cans, they must merchandise the message exactly as they merchandise anything else. They feel that these labels imprinted on every can label will place before the housewife the government's plea for metal salvage at the very moment she holds the container in her hand either to save or discard it.

"Remember us when you bake your own"

*by Charles S. Morrill**

If the free economy which has made America great is to be retained in our post war world, the names and trade marks of branded merchandise must not be allowed to die even when war necessity causes such merchandise to be absent temporarily from dealers' shelves. Here at Burnham & Morrill, we believe this to be vital to the progress and prosperity of our own nearly century-old company. That is why, even though our canneries are now in war work and the B & M line of Brick-Oven Baked Beans and other quality Down East foods are thinning on dealers' shelves, we are continuing our advertising in national magazines.

We know that sooner or later, when victory has been achieved, our canneries will again be sending great volumes of B & M foods back into normal distribution channels for sale to Mrs. Consumer. When that time comes, we do intend that our merchandise shall quickly resume its old popularity so that the public, our dealers and ourselves can benefit accordingly. The problem of how to maintain this name and quality identity when our packages in stores and consumers' homes are not aiding in this is one, we believe, we have successfully solved.

For a number of years our most heavily advertised and most extensively sold food has been B & M Brick-Oven Baked Beans. As soon as it became clear that, as a war measure, baked beans in containers were to grow scarce on the market, we decided the best way to keep the name and reputation of this product alive was to help women bake their beans at home in the genuine, old-fashioned New England way, as B & M bakes them. Thus, we immediately changed our advertising from product advertising to service advertising. Each one of our current advertisements features a free New England baked bean recipe offer. "Write to us," we tell housewives, "and we will (*Continued on page 110*)

* President, Burnham & Morrill Co.

Extreme right. Typical B & M advertisements, telling housewives to write for recipe book to learn how to bake beans the brick-oven, B & M way, now that the canned beans are no longer available. Right. This was the way B & M Brick - Oven Baked Beans were packed before government metal requirements brought container shortages.

(*Page 61*)

Ralston Whole Wheat Cereal and the Shredded Ralston package backs feature other Ralston products in the line—a sort of "share-the-ride plan." The Shredded Ralston carton back, for example, features the Whole Wheat Cereal, Instant Ralston and Ry-Krisp.

Share-the-ride-plan for Ralston cereals

Keep your brand name alive. It may be an old story these days, but don't let it become a tiresome platitude, because it's more important than ever and will be more so as the war progresses.

After the last war, the companies who came through best were those who paid attention to their merchandising activities and kept their names before the public through thick and thin. Those who did not were forgotten and had to start all over to win back their consuming public after the war was over.

After the present war this is going to be the same story —only a much more serious problem. In World War I there was not one fraction of the curtailment in civilian industry that is going on today. There was little of the material shortages that are causing standardization and reduction of brands today.

That is why it is heartening these days to hear about redesigns like the program Ralston Purina Co. has just completed for its packages of Ralston Whole Wheat Cereal, Instant Ralston and Shredded Ralston, now making their appearance on grocer's shelves.

The main reason for redesigning these packages, the company stated, was to strengthen display value on the shelves. However, the most novel improvement is in the backs of two of the cereal packages.

The company calls this new use of the backs, the "share-the-ride-plan," because the backs of the packages now feature other products in the Ralston line. For example, back panel of the Shredded Ralston package shows a color reproduction of a package of Ralston Ry-Krisp beside an appetizing plate of cheese and Ry-Krisp biscuits. It also illustrates the company's whole wheat cereal package beside a color picture of a luscious bowl of this cereal with cream. The back of the whole wheat cereal package also carries an illustration of Ry-Krisp and a dish of Shredded Ralston Bite Size biscuits in a bowl with sliced bananas. These back panels present not only suggestions for the company's products, but menu suggestions for the homemaker.

"Look for the checkerboard package when you buy whole grain foods," has been the company's slogan for years. The checkerboard idea has been strengthened on the new packages and is enhanced by the bold lettering on the fronts, designed to be seen for many feet in the modern self-service market. The backs of the packages maintain the trade identity of the checkerboard, too, by full color reproductions of the packages.

The company's whole wheat cereal is a hot whole grain cereal that cooks in five minutes. Shredded Ralston is a ready-to-eat, bite-size whole wheat breakfast cereal. Instant Ralston is a new pre-cooked hot whole wheat cereal that needs no cooking. It is prepared simply by mixing with boiling water.

The company states that this new pre-cooked cereal is the first major cereal improvement in 45 years. It is made both from wheat and oatmeal.

Unlike other hot cereals on the market, usually packed in large cartons, these instant cereals are packed in envelopes containing exactly one serving each. Display caddies suitable for backbar use contain 24 individual serving envelopes. These were designed for drug stores and restaurants. They are also used by the army. The envelopes are waxed glassine heat-sealed, also appropriately printed with the checkerboard design, as is the display dispenser.

The company said that trade reaction to this innovation

New line of packages for all products use the back panels for related selling by illustration and use and the serving of the product.

has been highly encouraging. The individual serving packages assure a predetermined profit on each sale. They also avoid the waste involved in batch cooking or the inconvenience of storing leftovers. The fact that no cooking is needed protects against scorched pots, under cooking and over cooking—and assures a fresh serving for each customer —even during off hours.

Today when trained help is at a premium, when the government is urging everyone to eat whole grain cereals, these new packages make the fountain operators' job easier, help increase breakfast checks and help the fountain operator to tie up with the national nutrition program.

These individual envelopes of packaged instant cereal are helpful in the home these days, too, especially when everybody goes off to work—even the housewives to war plants and for voluntary services—and when there are no servants. Many people will eat hot cereal if they don't have to bother with the cooking of it. These envelopes containing just enough cereal for a serving, ready to eat when added to boiling water are a real answer.

The new Ralston packages are the result of close cooperation and conferences between the sales and advertising departments who work out changes that are to be made to be sure of their merchandising value at the point of sale.

The familiar colors—red, white, blue and yellow—are retained on all the packages with the back panels of the cartons in full color. The new designs are so skillfully done that there is no mistaking a brand identity that Americans have known on the grocery shelves for years. Yet the packages are modernized to fit into today's self-service marketing programs. Ralston brand will be better known after the war is over because of this foresighted merchandising. Cereals have widespread popularity at all times in this country. The grains from which cereals are made are also among the more abundant farm products and civilians as well as the armed forces and lend-lease may look forward to having sufficient amounts of many popular cereals for their needs. This all means, of course, that competition in the cereal field, although at low ebb for these products during the war, will again reach high tide once the war is over.

A new product, Instant Cereal, directs the consumer simply to add hot water and serve. It is dispensed in drugstores and restaurants and is also used in the army. Package is a heat-sealed wax glassine envelope and is distributed in counter display dispensers. These instant cereals come in several types—one a wheat cereal, another an oatmeal. These products are extremely timely in view of the fact that with many people in industry who are working longer hours, and the increasing number of women in industry, the demand for cereal that can be prepared in an instant is great.

Comfort components for combat areas

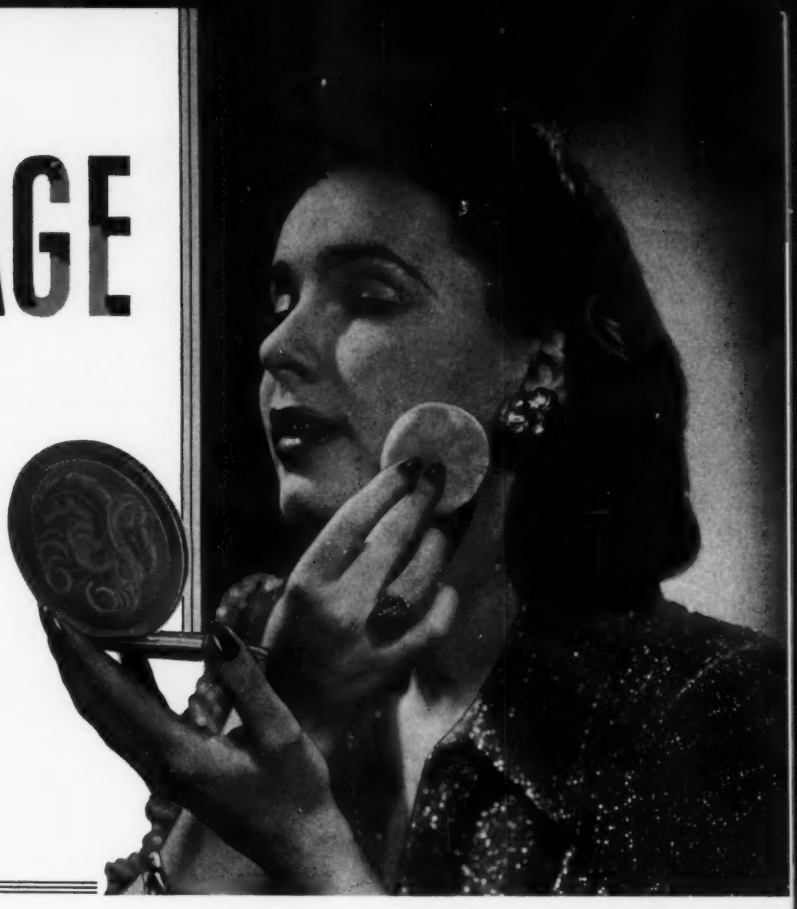
Candy, gum, tobacco and toilet articles, previously available only for resale, are now made the basis of issue to soldiers in theaters of operation within the discretion of the commander of the field forces. War Department regulations were recently changed to provide for the issuance of these articles of comfort in combat areas. This change in regulation was worked out by the Office of the Quartermaster General and the Jersey City Quartermaster Depot, commanded by Col. Henry B. Barry, Q. M. C.

The merchandise is segregated into three groups known as: toilet articles component, candy-gum component and tobacco component. Each component contains sufficient assortment to cover daily needs of approximately a company of men. As illustrated here, the toilet goods component includes plastic razors, shaving cream, blades, toilet soap, tooth brushes and tooth powder. The tobacco component contains popular brands of cigarettes, pipe tobacco, "roll your own" tobacco and cigarette papers, chewing tobacco and matches. In the candy component are chewing gum and hard candy. All is popular branded merchandise. Each of the units is well packed in a weatherproof case, well sealed and steel strapped.

Lt. Col. Charles Cavelli, Jr., Q. M. C., chief of the Procurement Division of the Jersey City Quartermaster Depot, is responsible for the procurement of these items.

CAMOUFLAGE

For Compacts



The fact that women spend nearly as much on cosmetics as on any item of their apparel is the foundation of a booming peacetime compact business. In war, with metals and the manufacturing facilities of compact producers being commandeered for the front lines, the demand created a packaging problem which was a distinct challenge to ingenuity.

Burt's engineers put their resourcefulness, together with Burt's vast resources, to work on the problem.

Result: a compact made almost entirely of paperboard. The heavyweight material is molded to shape, accurately die-cut so it closes with the same snap as a machined metal job. It is color printed and either coated or lacquered to give the final sheen that makes its appearance as attractive as any produced from other materials.

This is another example of how Burt's ingenuity is helping packagers to "Keep 'em Rolling." Ours is a service that is not content merely to manufacture large quantities of good packages. We specialize in new developments—of machinery, of containers—in both war and peace. Others will appear in subsequent issues of Modern Packaging.

F. N. BURT COMPANY, INC.

500-540 SENECA STREET, BUFFALO, N. Y.

NEW YORK CITY - PHILADELPHIA - BOSTON - ST. LOUIS
ATLANTA, GEORGIA - CHICAGO - CLEVELAND - CINCINNATI -
NEW ORLEANS - MEMPHIS - MINNEAPOLIS - KANSAS CITY
DANVILLE, CALIFORNIA (Near San Francisco)
A. G. Spilker, P. O. Box 126, Telephone: Danville 27
LOS ANGELES: 1709 West 8th St.—Telephone EXposition 0178
CANADIAN DIVISION: Dominion Paper Box Company, Ltd.
469-483 King Street, West, Toronto 2, Canada

★

Change in Firm Name

★

Sav-way Tool and Machining Co.

BECOMES

Sav-way INDUSTRIES

In the past this company has been known as Sav-way Tool and Machining Co., engaged in the manufacture of precision tank and aircraft parts . . . a line of gauges . . . and internal grinders.

Today Sav-way is composed of six major divisions:

End Mill	*Plastic*
Gauge	*Precision Production*
Internal Grinder	*Specialty Engineering*

With this change of name and expansion in activities, we announce the opening of our new general offices and main plant at 4875 East Eight Mile.

In addition, two other plants have recently been purchased and a fourth is now in the course of construction. These four plants, together with our physical and chemical laboratory, have been newly equipped with the latest and most efficient machinery to help meet present and postwar needs.

"It will be done" is the significant slogan adopted by the young and aggressive personnel of:

Sav-way INDUSTRIES

4875 EAST EIGHT MILE

DETROIT, MICHIGAN

Representatives throughout U. S. A. and Canada

★

Ask Tony, the pushcart man

*by R. J. Ingram**

Oftentimes it is apparent that the simple fundamentals of window display are overlooked perhaps inadvertently in an endeavor to achieve esthetic effects rather than to create buying impulses which culminate in the selling of merchandise.

In the drug field, particularly during the past several years, we have been experiencing a complete transition in the conception of displaying merchandise. There was a time when the retailer thought of his windows as a place in which to hang pictures and then glorify those pictures with elaborate crepe paper backgrounds which oftentimes detracted from the display sales appeal. But the writer believes that this era is gone forever and the window must serve a more practical function in showing a variety of the merchandise on sale in the store and afford suggestions for window shoppers.

An empty window never sold any merchandise—in fact does not even give a clue to the type of merchandise the store carries. However, window space is important and its use must be considered in conjunction with the rental value of present day drugstore locations. According to the government, the familiar phrase, "down at the corner drugstore," will justify it because a survey shows that 84 per cent of the country's drugstores are located on street corners where rentals are naturally higher than in the middle of the block. The landlord knows that the windows are valuable. In fact, it is obvious that the front of a store is worth more per square foot than the back. Consequently, the windows of a store are perhaps responsible for from a third to a half of a store's rent and they should be made to pay their rent through multiple display of a variety of items as against a limited display of a single item whose sales volume perhaps might not offset

* Assistant Sales Manager, Bristol-Myers Company.

These displays for Ipana show one of the present trends in drugstore window treatments. In order to make maximum use of limited space, mass arrangements are displayed in steps. Natural tie-ups such as dental products and beauty aids, dental products and kodak films are designed to create related item displays.

one-twentieth of the store's rent. Therefore, the window is the real entrance to the store. To be sure, the feet go in through the door, but the eyes of the customer go in through the window.

In expressing these views, we are naturally approaching the problem of window display from the dealer's standpoint and not from the manufacturer's standpoint. It is a dealer medium pure and simple and the manufacturer who puts the dealer first in the preparation of display material is the one who stands to profit through having the material used and thereby publicizing his products advantageously in conjunction with competitive and non-competitive products at the point-of-sale. The window belongs to the dealer and not to the manufacturer. This space is obtainable at the discretion of the dealer and is not a purchasable medium of advertising in standards of time and/or space such as publication, radio, car card and poster advertising.

In the process of creating window display ideas, a valuable lesson can be learned from walking through the pushcart districts of any large city or from observing the way merchandise is displayed at the vegetable market. The fellow who features only one product, perhaps potatoes or lemons, commits himself to only a limited market because everybody passing this display may not be in the market for potatoes or lemons at the particular time.

Conversely, the pushcart peddler, desirous of appealing to the masses, displays potatoes, carrots, cabbage, beets, spinach in conjunction with apples, oranges, bananas, etc. The point is, his objective is to appeal to the masses to the degree that everybody might desire some one or two items he has on display and in drawing their patronage he exposes them to the sale of one or more related items. Confucius say, "Bird choose tree. Tree not choose bird." We paraphrase, "Customer choose store. Store not choose customer." Yes, customers choose stores where a variety of merchandise is on display. Women love to shop and buy. Dramatizing this point is the illustration at the beginning of this article, which is self explanatory.

The government further reveals that 65 per cent of all

In order to help druggists build up a much neglected market, Bristol-Myers took all the related items in men's toiletries and designed a unit with as much sales appeal as possible. Below is an After-the-Bath unit, which is a departmental idea for the druggist to feature deodorants, lotions, manicure aids, hair brushes, face creams, etc. In this way, though Mum is given the spotlight, the display becomes a multiple item.

drugstores were found to be equipped with open display tables for interior mass display of merchandise. *Such displays were coincident with large volume of business!* With this overwhelming evidence favoring mass merchandise display to appeal to the varied preferences of the masses, it would certainly be poor business wisdom to buck the trend.

However, a big problem confronts all manufacturers who distribute their products through drugstores in obtaining good display push on their respective products. The trend in mass display is growing so fast that druggists, to offset limited depth of window, are building steps in the window for height to gain more space in which to display merchandise. This naturally means smaller pictorial displays with powerful eye appeal and a dramatic selling idea to counteract the static arrangement of merchandise on display.

Large display pieces are today practically obsolete because abnormal size utilizes space which can be better devoted to display of more merchandise. A second illustration for this article is an example of how we are riding with the trend—Dental Health and Beauty Needs Display, the title of which implies that more than one product is on sale. Most dentifrice advertising is based on a beauty appeal and so what more natural tie-up then a display of beauty aids in conjunction with dental needs.

We go a step further, through pictorial suggestion in reminding passers-by that they might also need cameras and film as depicted in the display centerpiece and side cards. We show how the retailer can utilize this display material in a step window or in other words, the mass merchandise type of window. In a third illustration, we show how this material can be adapted to the floor type crepe paper background window in localities where the retailer is reluctant to use steps. Note also that we show the druggist our display material in a window setting with actual merchandise—competitive and non-competitive. The druggist can easily duplicate either setup in his own store.

To the same degree that two horses would pull a heavier load than one horse, tests have proved that a counter display of the same merchandise will make a window display more effective and so we furnish a counter tie-up display, with all window material.

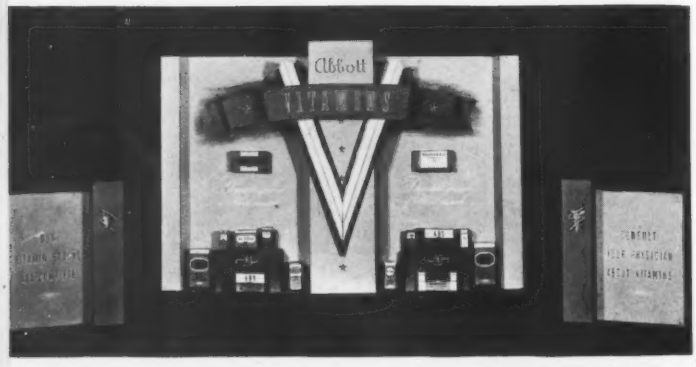
Another illustration is an entirely different type of merchandising promotion—a departmental display idea not based on one product, but suggestive of related items for use by men—Men's Needs Departmental Display. We discovered that drugstores were neglecting a big market in the sale of men's toiletries because the drugstores were catering primarily to cosmetic departments, baby departments, prescription departments, feminine hygiene departments and tobacco departments. However, knowing of the increasing numbers of women who smoke today, a man is lucky if he doesn't lose his shirt and sense of dignity in trying to buy a package of cigarettes in this department. (*Continued on page 114*)

DISPLAY GALLERY

1

1 Wilson features the torch of freedom held aloft and stresses the slogan, "Regardless of Price—No Better Buy in the World—War Bonds—That's All," in its newest display. It is a multi-plane unit—the two front planes have a candle and bottle. Then comes the copy panel, while the third plane holds the torch and the fourth plane shows part of the world in different colors for each country. The back plane is curved, which lends an added effect of realism to this patriotic piece. The Christmas candle is removable so that the display continues to be timely long after the holiday season. Designed and made by Einson-Freeman Co., Inc.

2 Saving of materials and manpower is this unit for Abbott Laboratories, used to keep the public up-to-date about their drug products. It is a double-use piece. A different design is lithographed on each side so that the dealer may simply reverse the posters and cards and have a new window treatment. By creating the display in this clever way, the designer was able to save much board that would otherwise be wasted—most posters are printed on only one side—and to save time and labor. Photographs show front and back views of the same unit. Display by Magill-Weinsheimer Co.



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3 A compact container for 12 packages, designed to occupy a minimum of counter space, holds the new Bayer Aspirin Victory packs. With the counter dispenser goes a display card that reads, "New Victory Package—Our Metal Box Has Gone to War." The card also explains just how the new package, which looks like a book of pocket matches, is opened and the tablets removed as needed.

4 It was the intention of Solon Palmer, makers of toiletries, during the 1942 holiday season to sell a number of assortments of their products. In order to do this, it was desirable that a display suitable for either window or counter use be shipped with each of these assortments and, if possible, be so constructed that it could be packed with the merchandise in a comparatively small case. The display created not only sets off the merchandise, but it also attracts the attention of the prospective purchaser and fulfills the particular construction requirements. The backdrop and small figures could almost double for a marionette show when shown in window or other arrangements. As in a stage setting, the backdrop pictures the scene—in this case, old houses and a view of a river with a side-wheeler lying alongside the dock. Carriages and small figures, lithographed in full color like the backdrop, are shown in interesting groupings. Display made by Kalasign Co. of America.

5 Buckley's Canadiol Cough Mixture had for many years sold very well in Canada, Australia, New Zealand and Newfoundland, but the company wanted to increase sales in the United States. Cough mixture lends itself to sampling, so the company

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hit upon a display which would allow the customer to try a spoonful of the mixture. Arrows emphasize that the spoons are clean and that the dealer wants the customer to make a test. Empty carton shows one size of the mixture and the bottle of cough medicine shows the other size. Designed and made by Harold A. Cowles Box & Display Co.

6 Economy, both in material and counter space, is represented by the new display carton adopted by Middlebrooke Lancaster, Inc., makers of Nutrine hair creme. While the new is much smaller than their old carton, it holds the same number of tubes, due to the compact nesting arrangement. Made and designed by Robert Gair Co., Inc.

7 To assist grocers in making counter and window treatments of Diamond 29 Syrup, a novel sales-maker and price-marker is available. The markers fit around the necks of the jars. They emphasize the fact that the use of syrup will make the sugar ration stretch further. Housewives who are faced with making a little sugar go a long way will find the suggestion on the markers a point-of-sale solution to their cooking troubles.

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Duration window units

Thousands of top-notch druggists throughout the country have been equipped with a "duration" window display unit by E. R. Squibb & Sons, New York. From big chain stores to "chemist shops," they are using it for periodic showings of Squibb Home Necessities and Vitamin Products in their stores and windows.

Early last spring Squibb executives saw transportation and installation difficulties ahead, as the tempo of war increased, and they set about designing a unit that not only would last until the war was over, but could be installed by the druggist himself. They knew there would be increasing difficulty with many-pieced window displays and professional trimmers.

The result of their efforts was shown to Squibb salesmen at the summer sales conferences and distribution got under way in September. Built of natural, polished oak, the fixture is a sturdy unit standing 52 in. high and $37^1/_2$ in. wide. Eleven shelves display packages of various sizes, while grooves have been arranged to hold four different cards. New cards, lithographed on both sides, are mailed out at approximately two-month intervals to give the display an interesting variety and timeliness.

In distributing this expensive piece of equipment, Squibb took steps to insure that it would be placed only where it would be used most effectively. Each salesman was allotted a proportionate number of the units and it was his job to see that they were given to stores that would cooperate with Squibb. Each store receiving one signed a contract agreeing to place it in the window at frequent intervals and to use it only for the display of the merchandise. If this agreement is not carried out, Squibb reserves the right to repossess the display and transfer it to another outlet which will make use of the unit to best advantage.

Six sets of cards for the unit have already been prepared. Each set consists of a 14- by 22-in. center card, lithographed in full colors; a large price card for the bottom of the display, 9 by 12 in. in size; and two 2- by 7-in. cards for each side. All of these cards are double-faced so that two sets can be sent out at one time. This saves not only material, shipping and a storage space, but also the time of hard-pressed Squibb shipping men. Sent in bulk to the branch offices in Atlanta, Boston, Brooklyn, Chicago, Cleveland, Houston, Kansas City, Los Angeles Philadelphia, San Francisco and Seattle, the cards are then mailed to the druggists on each branch's "Duration" list. The various branch offices keep in close touch with the druggists in their territories and know those who will cooperate in keeping the display up-to-date.

When installing the "Duration" display in a large window, the druggist uses his own pedestals and platforms to fill out the space. Squibb does have, however, a wide selection of large lithographed cards and price cards for their Home Necessities products which the druggist can obtain to supplement his other material. All Squibb salesmen receive instruction to supplement their other material. All salesmen also receive instruction in display technique and are ready to help their dealers whenever they are in the store.

With much of their other merchandise rapidly disappearing from the market, pharmacists are concentrating more and more on drug and toilet goods and are in need of display material which will help them with the job. At the same time, the manufacturer finds that the display of his products at point of sale is one of the most successful ways of keeping his name before the public at this time when inadequate sales help is making personal selling a thing of the past in most retail stores. The "Duration" display goes a long way toward solving both these problems and is proving increasingly popular with both retailers and Squibb salesmen because of this fact.

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1. A substantial cabinet built of natural, polished oak makes the basis for a window unit that will serve dealers over a long period, saving labor used in installation of new units and necessary transportation to deliver them. Here the cabinet is set up for a many-package showing of Squibb's vitamin products. 2. Home necessities are grouped in the cabinet for this display. In order to give timeliness and a certain variety to the permanent unit, new cards, lithographed on both sides, so they may be changed each month, are furnished dealers who need only to turn them around.

HOW THIS WAR HAS CHANGED THINGS!

SPECIALIZED SKILLS ARE THE NEW ORDER

★ ★ ★

RIDGELO products have a proved record in supplying paperboard for war-time needs, a job that non-critical materials do well—replacing tin, transparencies, foil, what not. Paperboard saves space and weight, too, in efficient rectangular packages. It offers protection against moisture and oils. As long as goods are shipped, paperboard will prevent breakage, spoilage, and waste. For conversion and essential uses, Ridgelo clay coated and other finishes may be *your* war-time answer. LET'S FIND OUT!

In a few months dreams have become facts! Ridgelo Paperboard Products are used now instead of:

Tobacco tins
Cocoa cans
Tea foil packages
Coffee cans
Dog Food cans
Prepared Desserts (foil packages)
Peanut cans
Bicarb of Soda cans
Adhesive Tape rings
Aspirin tins
Bouillon Cube tins
Typewriter Ribbon boxes
Grass Seed tins
Rubber Accessory tins
Dehydrated Soup cans

And are used too for:
Army & Navy cardboard needs
Government Tag requirements
Shell clip cartons.

Ridgelo
CLAY COATED
REG. U.S. PAT. OFF.
BOXBOARD

MADE AT RIDGEFIELD, N. J.
BY LOWE PAPER COMPANY

Representatives: E. C. Collins, Baltimore • Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Gordon Murphy and Norman A. Buist, Los Angeles • A. E. Kellogg, St. Louis • Philip Rudolph & Son, Inc., Philadelphia

A vital link in NABISCO'S efficient production

The name NABISCO has become a "buy word" wherever crackers are sold . . . No overnight achievement, this strong public confidence has been attained through a consistent policy of product improvement, backed by manufacturing efficiency vigilantly maintained at every step of the manufacturing process.

Automatic wrapping forms a vital link in this ideal production set-up. So we believe it is significant that large numbers of Package Machinery Company machines have been in the service of Nabisco ever since our Company was founded. And, like other leaders in the package goods field, National Biscuit Company has shown its approval of our machines by constant re-orders for additional improved equipment . . . Something to remember when wrapping machines can again be freely delivered, and you will be seeking the best and most advanced machines.

We are ready now to put our Engineering and Designing Department to work on any ideas you may have for post-war packaging improvement.

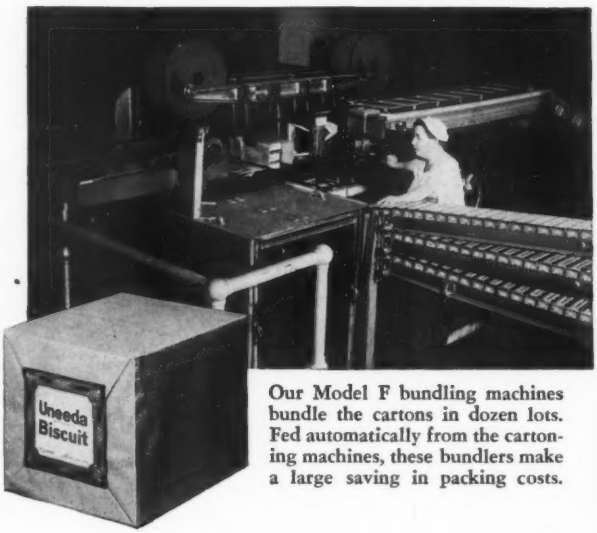
Consult our nearest office

PACKAGE MACHINERY COMPANY
Springfield, Massachusetts

NEW YORK CHICAGO CLEVELAND LOS ANGELES TORONTO

Mexico: Agencia Comercial Anahuac, Apartado 2303, Mexico, D.F.
Argentina: David H. Orton, Maipu 231, Buenos Aires
England: Baker Perkins, Ltd., Peterborough
Australia: Baker Perkins, Pty., Ltd., Melbourne

Attractive, sales inducing wrapping for a great variety of NABISCO products is produced by our Model F carton wrapping machines.



Our Model F bundling machines bundle the cartons in dozen lots. Fed automatically from the cartoning machines, these bundlers make a large saving in packing costs.

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

TECHNICAL SECTION

MACHINERY PRODUCTION TESTING

CHARLES A. SOUTHWICK, Jr.
New Technical Editor of Modern Packaging

For some time it has been the desire of Modern Packaging to conduct a department which would service its readers in an authoritative manner on the technical aspects in all fields of packaging. For a long time we have been looking for a technical editor to head this department—a person who would be familiar with all phases of packaging materials, performance and production.

To find a person with such background was not easy. If a man was an authority on paper, for example, he would not know the glass industry. If he knew materials, he might not know mechanical production. Thus, it is with a great deal of pleasure that we announce the appointment of Charles A. Southwick, Jr., to this assignment.

Because of his years of experience as director of packaging research and development for General Foods Corp., Mr. Southwick has been in a position to study at first hand hundreds of packaging problems involving all kinds of materials and methods of production.

He is widely known in the field of packaging research and in many laboratories his name is already a household word. The Southwick test, for example, for determining moisture-vapor transmission is now being used by some 30 producers, users and some government agencies.

Nor is finding alternate materials a new subject to Mr. Southwick. Modern Packaging was surprised to learn that he had begun a metal replacement research program as far back as 1934. For metal containers used by General Foods at that time to package dry products, he had in reserve four possible substitutes—fibre cans with metal ends, all fibre cans, bags in cartons and just bags. This farsighted research led to the development of many of the now urgently needed protective features of fibre and paper containers. It was also one of the reasons why Mr. Southwick was called to the Container Branch of WPB last year. The information he was able to furnish the government, for example, aided one commodity industry in reducing its metal requirements by 70 percent without loss of protection to the product.

Mr. Southwick was born in Peabody, Mass., and was graduated from Massachusetts Institute of Technology in 1928 with the degree of bachelor of science in chemical engineering. He began his business career with the Hazel-Atlas Glass Co. at Wheeling, W. Va., where he was engaged in development work on lining materials for closures, and had charge of customer service and research on new products and packing methods. He went to the Research Laboratory of General Foods Corp. at Battle Creek, Mich., in 1931 to do research and engineering on special products. In 1934 he was appointed to take charge of this company's Eastern Development Laboratory at Hoboken, N. J. It was while engaged in this activity, that the need for standard, reliable and accurate methods of package testing were recognized and Mr. Southwick was given the responsibility of directing General Foods packaging research and development.

Plans for the new technical section

by Charles A. Southwick, Jr.

The need for a packaging science is acute now, but it will become increasingly so in the maze of new materials which will be available in the post-war period. Now is the time to realize the need for the scientific method and to take steps to prepare for the future.

The first step is the outlining of the task of developing the science of packaging for the purpose of soundly, rapidly and effectively using the materials of other industrial researches to the end that packages can be made better, more attractive, lower in cost and with more uses.

There is no denying the worth of these goals, if it can be proved that they are possible of realization. It may further be demonstrated that the easiest and fastest way of approaching these goals is by means of the objective method which, in short, is science.

First, and of greatest importance, is the proper definition of a package. Unfortunately, a package means different things to different people. If you are a housewife, your thoughts of a container will be in general terms of use and handling. If you are a merchandising man, it will be in terms of consumer acceptance and of low cost. If you are an advertising man, your thoughts will be in terms of attractiveness, shelf appeal and customer acceptance. Finally, if you are a production man, it will be in terms of mechanical operation, ease of packing and cost. A simple definition of a package which, in essence, covers all of these divergent demands is: "A package is a protective, low-cost, convenient and attractive means of delivering goods to a consumer." While this definition covers all of the necessary attributes of a container, it does not necessarily follow that all of these attributes can be rationalized. Each one of these attributes has many diverse aspects and there is some interrelation between them, but the word "protection" is the one of greatest importance because no package can be successful if protection is not given its due consideration. Conversely, protection alone is sufficient to make a container which can be used in the case of emergency. Therefore, we can leave convenience and attractiveness to the merchandising and advertising man, and for the scientific aspects of packaging concentrate on the problems resulting from protection. Protection can, of course, be achieved and still meet the demands of these other factors, and obviously the level of protection and other demands will be the prime factor in influencing cost.

This definition, by its very briefness, does one important thing. It becomes automatically a performance specification because there is no mention of specific materials or of any suggestion as to how any of these attributes can be attained. The essential point is that the resulting container must have sufficient of these qualities to do these things. It will help the whole packaging industry if more thought and attention are given to the result to be attained without regard to the specific materials to achieve that end. As soon as it is fixed in the mind that a given job can only be done in one way or in one type of material, then the immediate result is to limit the scope of thinking. This is not conducive to greatest progress.

It is true that at the turn of the century it was necessary to think of packaging jobs in terms of relatively few materials. In those years before the last war, packaging problems were solved by a small number of materials, usually by two, glass or metal, which so amply met all needs that their use was nearly universal. It was a very brave packer who dared to risk his product in what must have been called even then "substitute materials." The protective papers of pre-World War I, for example, were so doubtful in quality that they were useful only for materials not requiring a great deal of protection on the shelf. The reason for this condition was simple. America had never needed to have developed its scientific resources. You all know what happened in that war and how there was a tremendous impetus given to developing American science and research. By the end of the war we were producing nearly all of the things which we had imported from the older and more scientific countries of Europe. The impetus of this endeavor was never lost in the post-war years and in the period between this war and the last, packaging felt the full impact of a flood of new materials which can be attributed entirely to the research laboratories of this country.

One of the outstanding developments in the period between World War I and II was in the field of cellulose chemistry. Cellulose has, for time immemorial, been used as found in nature except for the physical changes required by some users such as the paper industry. It was not until research showed how to dissolve cellulose and regenerate it in a clear film that any remarkable or distinctive progress had been made in this field for a great many years. Since the introduction of the first cellulose film, a great many transparent materials have been offered, based on compounds and derivatives of cellulose. Before this war there were at least a half-dozen such packaging materials available, each suitable for a specific type of job. Because of the size and the complexity of the cellulose molecule, an almost infinite number of cellulose compounds are possible. Certainly we shall see in the future cellulose derivatives having properties much superior to those produced in the past. This is but one example of how scientific progress has broadened the base on which the packaging industry can draw for materials.

Not only has this scientific work resulted in the production of new materials, but it has also produced reductions in costs by improved processes and in higher standards by better control. It has been the ability of the suppliers of packaging materials to improve their function and reduce their costs which resulted in the mushroom growth of small package units in the era between this and the last war. Cost alone could have been a sufficient barrier to the packaging of many products in the sizes of units which we know today.

When the present war began, the packaging industry was not using to anywhere near its full capacity many of the functional materials available. It is true that there is always a certain amount of lag or inertia, but in this case subsequent events have shown that the inertia in accepting new materials has been much too great. This is borne out by the fact that many people talk about the remarkable and miraculous things which, for example, paper has been able to do to solve some of the war shortages. It should be emphasized that papers, whether they be plain or treated in any way, are in general available in a smaller number of kinds than before. The only thing that has happened is that the barring of certain

materials has forced ingenuity and recognition into channels which had previously been ignored. These sudden curtailments have greatly accelerated normal development and research, in many cases to the point where hasty decisions have been made. Many of these wartime conversions will become permanent because they were carried out on a rational basis and can be considered as alternates rather than as substitute containers. Unfortunately, many companies were so desperate in their need of new packages that serious failures have occurred and this has usually been traceable to the lack of realization that a container must often do more than merely carry the product in a physical sense. Surprisingly enough many manufacturers have only a vague knowledge of the requirements of their product and not the remotest idea of how to obtain these requirements in their containers. The combination of a desperate and ignorant buyer and a promoter or a hair-brained inventor has resulted in too great a loss in goods and companies who will never be happy until they get back to their pre-war packages.

The war demands for new materials capable of performing extraordinary duties have resulted in condensation of the time normally required for research and development. Materials which were too embryonic may not have been capable of development and of being put into production. However, we can be sure that when the war is over we will have available for packaging not only all of the older materials, but a large number of new basic ingredients. It will be the job of the packaging industry in the post-war period to find new points of application and new uses for these war babies. Fortunately, our war background will be of some help in rapidly obtaining information concerning their physical and performance properties. It must be kept in mind, however, that because of the complexity of many of these materials and the large possible number of their uses in combination with older materials, the assimilation and maximum efficiency in putting them to use can only be achieved by scientific evaluation.

It should be realized by everyone in the packaging field that the future growth and expansion of this industry is limited only by the new materials and new performance levels which scientific research of the nation makes available. Just how packaging will benefit from this research can be shown quickly by a few examples. In the field of organic chemistry, we can expect new solvents, plasticizers, adhesives, waxes, and a great many other organic materials having packaging applications. From those doing research work in plastics, we will receive new large molecules, tailor-made to special duties and also new film-forming materials with characteristics and properties far exceeding any we have known heretofore. From research in metallurgy, we should derive new metal foils, new alloys for packaging equipment. There is very little scientific work which is being done or which will be done from which packaging cannot derive some benefits. In the past, the greatest deterrent to progress has been the fact that the packaging field has not been thinking in terms of the requirements of the product.

If I could have a motto to epitomize or characterize the thinking and intent of this department, it would be the one word "performance." To me there is no single word which so accurately describes the type of thinking which must govern packaging work as this word "performance." Not only must we do, but we must also be able to rationalize and know why we get "performance."

This does not mean that Modern Packaging or even the Technical Section will be run on a purely academic or highly technical basis. However, it is my intent to have each month at least one full-length article devoted to an objective presentation, covering one phase of packaging. This article will be a dissertation on the basic material used in packaging, on package forms, or materials or testing or research; such articles to be written by an unquestioned authority in his particular field. There will also be each month a section devoted to standard or tentative methods and equipment. This is a highly important endeavor because only by being able to measure and record can we hope to accumulate a background of translatable experience and (*Continued on page 104*)

Mr. Southwick began a metal replacement research program at General Foods back in 1934. He had at that time four possible replacements for these metal cans: fibre cans with metal ends, all-fibre cans, bags-in-cartons and bags. In 1942 these products went into fibre cans with metal ends. Line drawings show further replacements now in readiness.

Soap machine wraps chocolate

Case history of war changes at Rockwood & Co.

"When a chocolate maker eats his own product, it's got to be good," said George Scheu, plant manager for Rockwood & Co., telling about one of his wartime-at-home experiences.

Specifically he was talking about the task of converting two soap wrapping machines to handling 240 bars a minute of the Army's Ration D Chocolate Bar—a single long week of hard work when the first products of the machines kept energy at peak-point for himself and his mechanics.

"We munched the chocolate and kept on working," he said. And he admits that it was "quite a job of engineering to adapt the machines which had once wrapped hotel-size soap to the job of turning out the chocolate bar."

When Rockwood began its task, 60 girls were employed to hand-wrap the 2-oz., oblong bars in grease-proof wrappers and then seal them. Now 14,400 bars are wrapped each hour of the working day.

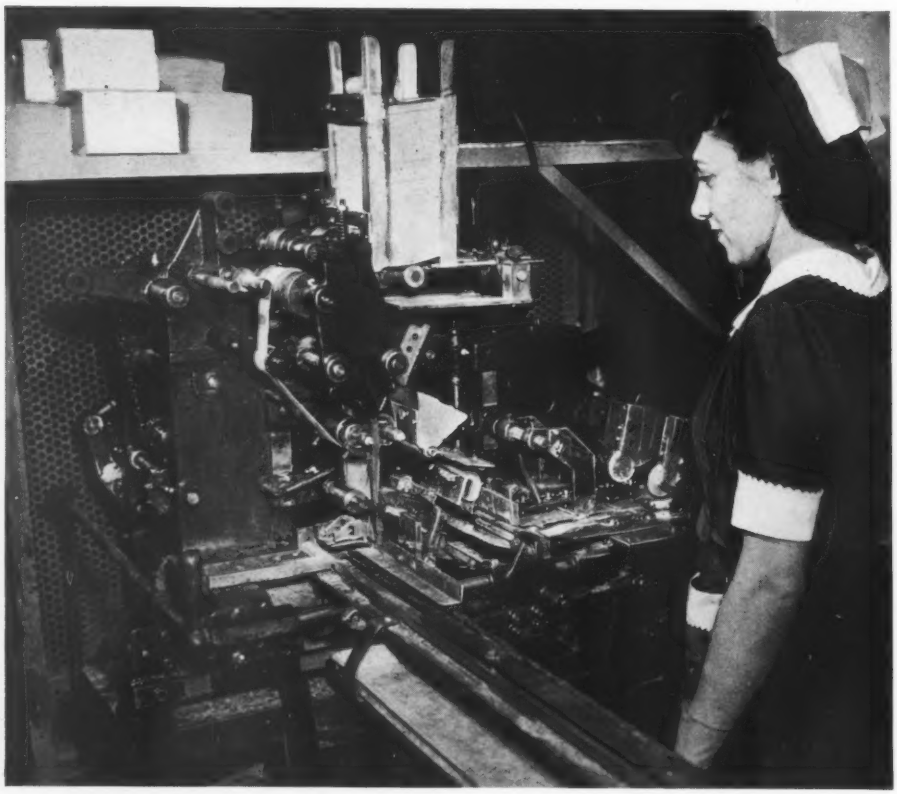
When the machines came in, filled to the gunn'ls with soap, hands went up in horror. But hot water and brushes and elbow grease in large quantities—plus skill in unlimited amounts—cleaned the machines, changed the gears and tracks, tumblers and wheels until the desired result had been achieved. Material shortages barred any new parts, so Mr. Scheu's mechanics scraped and filed and worked at their lathes until the desired results had been accomplished.

The bar itself consists of solid chocolate, plus oat flour and vitamin concentrates. Mixed together under the rigid specifications set up by the Quartermaster Corps, the resultant sticky mass is molded into proper-size forms and then fed into the machines. When finished, the bars can survive tests that include 120 deg. F. without melting and a penetrometer test at that temperature that cannot exceed six and one-half millimeters in twenty seconds. Hourly tests are made in the company's laboratory. So sturdy is the resultant bar that the hungriest soldier must spend a half-hour munching and chewing to consume it—thus draining from it every last bit of concentrated energy.

When the soldier's needs have been fulfilled, the chocolate consuming public will probably have another confection to fill the rapidly emptying shelves of the candy counters.

Rockwoods pack a similar bar for the Maritime Commission which is a part of every lifeboat's equipment. These are packed seven bars to a package in a six-ply, crimp-edged, heat-sealed bag that is water-tight, heat- and gas-proof. Likewise they produce the heavier 4-oz. Ration D bar, using the presently available equipment of the plant for both bars.

One of the most famous of Rockwood products for many years has been its cocoa powder, formerly packed in a four-ply laminated paper canister with the metal top and



1. *This machine wrapped soap for use in hotels until it went to war to wrap chocolate bars for the Army's emergency ration kits. Although it is doing practically the same job as before, Rockwood machinists had to enlarge the machine at all points from feed channel through to the delivery chute so that it could accept and handle the chocolate bar which is thicker and longer than the soap. All work was done at the Rockwood plant.*

bottom and friction plug closure. But with wartime packages, simplification of packaging was mandatory, and Rockwood cocoas will shortly be presented to the public in a new pack.

Rockwood will feature only one size—the single-pound package—to help conserve the limited supply of cocoa and make the little go a longer way. Formerly three sizes were packaged—2-lb., 1-lb., and $^1/_2$-lb. The $^1/_2$-lb. is being dropped because of excessive costs of packaging and for the sake of economy, the 2-lb. pack to spread the supply thinner. Rockwood can produce only 60 per cent of their total last year's output and the more sizes packed and the more units produced, the more chance there is of wastage in the filling operation.

The new package is an automatic duplex bag with patch bottom, made of 50-lb. white embossed bond with 40-lb. natural kraft liner. Some unorthodox procedures may be necessary to fit the bag to the normal production lines at Rockwoods, but Mr. Scheu lists patience as one of his most valuable assets and foresees no insurmountable difficulties.

Over-all, the color scheme of the customary box will be retained in the new bag and company-conducted tests indicate that the new containers will stand up under shipping conditions as well as the old box or even better. A test with a case of bags, packed in a partitioned carton, carried through a series of sprouts proved to Mr. Scheu's satisfaction that they will do the job. First the case was kicked down three flights of stairs; then it was loaded on a truck, shipped by freight to Chicago and thence back to New York. When the case was opened, not a bag had burst nor had any cocoa sifted out of the bags. It is not likely that the company would go back to the old type box even if it could.

There is still considerable work ahead before machines are completed that will open the bags, hold them securely while being filled, then fold the tops over twice and glue-seal them. Designing is still in progress, Mr. Scheu said.

Of greatest help, however, is the staff of engineers and chemists—and the girls on the assembly line who have been found to be readily adaptable to their new task.

The bag will be imprinted "Emergency Package for the Duration."

While production of the bags is less expensive than the boxes, more help will be required; 10 girls will be needed initially, to open the bags alone. The saving of 1,668,870 pounds of metal for tops, bottoms and end-plugs a year, however, is a consideration that is not lost on the Rockwood management.

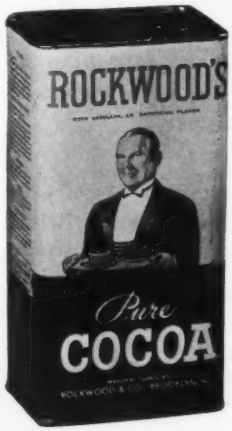
Dropping of 494 various items from its list because of the exigencies of the war has brought to the Rockwood organization a streamlining of its activities and efforts that is not altogether regrettable. Many items admittedly were "competitive" numbers originally designed to meet local or special conditions and just permitted to continue.

Other results of wartime streamlining are finding a warmer reception than was ever expected, such as the firm's experience with its Chocolate Bits package. These tiny chocolate morsels, used for household cooking, were formerly packed in a carton with a cellophane panel through which the contents could be seen. When the cellophane restrictions were set up, Rockwood redesigned its box, eliminating the panel and substituting a lithographed cover showing luscious chocolate bits in most life-like (*Continued on page 112*)

2

3

4



2. Rockwood pack chocolate ration bars for the Maritime Commission as part of every lifeboat's equipment. Package is 6-ply, heat-sealed, crimped-edge bag-in-carton that is water-tight, heat- and gas-proof. 3. Chocolate wafers, formerly in cellophane, are now in folding cartons with novel hand-folded, tucked-in closing. 4. The company's cocoa has gone from a paper canister into 1-lb. automatic duplex paper bag of bond and kraft, with patch bottom.

Protection of foodstuffs against war gases

*by S. H. Katz, Edgewood Arsenal, Md.**

When this paper was suggested, the subject "Decontamination of Foodstuffs" was proposed. This subject was not adopted because generally effective decontamination methods applicable to foods have not been developed—that is, methods that would leave the foods in wholesome and palatable condition. Prevention of contamination is therefore the best solution of the problem.

Specific test data on materials for protecting foodstuffs against chemical warfare agents have been generally withheld from publication through official restrictions the world over. Some general information has been published. However, the practical protection of foodstuffs against war gases can be accomplished by the use of many common materials and involves no very technical procedures. Many foods are well protected by the packages in which they are marketed.

Mechanism of contamination

Chemical warfare agents employed for their toxic or other severe physiological effects are mainly organic compounds, frequently halogenated. Sulfur, nitrogen and arsenic characterize some very potent agents. Inorganic chemicals have a part in chemical warfare, mainly in smoke screen materials and in incendiaries. White phosphorus, employed as a smoke-producing agent, is toxic; if it is dispersed from a shell bursting near foodstuffs, the foodstuffs may become unusable.

Major problems of protection, or of decontamination, arise from toxic agents in the liquid droplet form, dispersed from projectiles or from airplanes, or agents in the form of solids subdivided into dusts or dispersed as smokes. The gaseous or vapor forms are more transitory or "non-persistent." Although foods should not be exposed to the agents in gaseous form, contamination from such war gases will usually be less severe than contamination with liquids or dusts unless exposure of the absorbent foods to the gases is unusually pro onged.

Some types of foodstuffs accept contaminants much more readily than others. Butter is prone to absorb vapors from other foods. The same is true with butter exposed to vapors of chemical warfare agents, and other fatty foods act similarly. Vegetable foods in natural form are more resistant to contamination from vapors. The liquid and finely divided solid agents readily contaminate any foodstuffs if they are unprotected and contact occurs.

Decontamination

Decontamination of matériel in general is conveniently accomplished by chemical methods. The decontaminating agents chlorinate, oxidize, hydrolyze or otherwise react with the war gases so as to destroy their militarily useful properties. Chloride of lime is an inexpensive decontaminating agent and finds much use. But reaction products are not eradicated by decontamination, and the products may be poisonous if eaten with foods. They would be unpalatable and certainly unwholesome. Most decontaminating agents are themselves toxic or at least unfit for consumption. The decontaminating agents are customarily applied in excess to assure a sufficiency of the decontaminant and to obtain the benefit of mass action. Some decontaminants react with constituents of foods.

In the instance of the arsenical war gases, the molecules bearing the arsenic are destroyed by the action of decontaminants but the arsenic remains toxic in some secondary chemical combination. Water alone will hydrolyze some of the arsenicals—for instance, lewisite. Foods contaminated with the arsenicals cannot again be made fit for consumption. It may, however, be possible to separate uncontaminated portions from contaminated parts and utilize the uncontaminated parts.

All war gases, however, do not render foodstuffs hopelessly useless. For instance, phosgene and chlorine are removed to some extent by ventilation, heating accelerates the removal, and cooking will completely destroy any small residual amounts of these agents by hydrolysis.

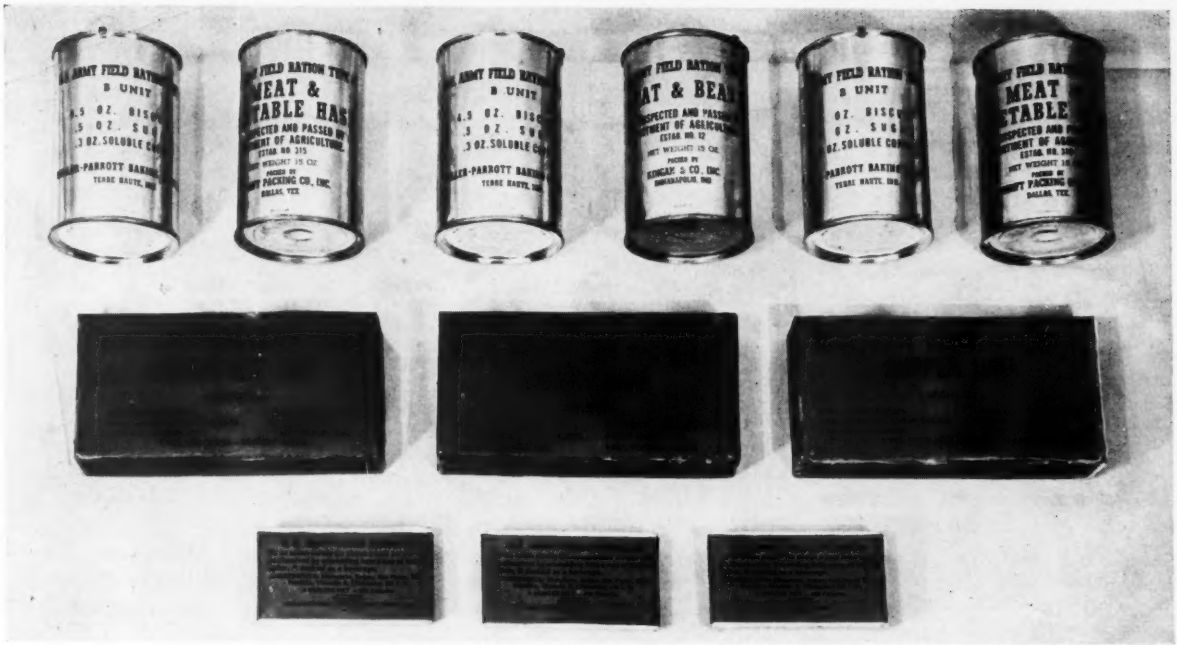
Protection of foods

Since decontamination of foodstuffs is frequently impractical or impossible, the problem of maintaining supplies of wholesome foodstuffs when they are subject to attack by war gases becomes one of protecting the foodstuffs from contact with the gases. Fortunately this is not difficult, since many types of commercial packaging materials and packages provide effective protection.

HERMETICALLY SEALED PACKAGES. Sealed metal, glazed earthenware, or glass containers completely prevent contamination of their contents by war gases in any of their physical states or forms. The sealed containers may become contaminated on their outer surfaces. They can be purified by immersion for half an hour in boiling water and then rinsing. If the contaminant is a vesicant, the persons handling the containers should be protected by impervious clothing and gloves, and should wear gas masks.

CARTONS. Numerous foods are supplied in cartons comprising several layers of dense paper, waxed paper, cellophane or other manufactured films in various combinations. Many of the multilayer packages provide effective protection for their contents. Unbroken metal foils are completely impervious. Cellophane has outstanding resistance to penetration. If the outer coverings of foods packaged in resistant materials become contaminated with liquid chemical warfare agents, the contaminated coverings should be removed and the food transferred to other uncontaminated containers. Superior types of packages will resist the penetration of liquid agents for hours or even days. However, the foodstuffs should be transfered from contaminated cartons as soon as possible to obviate later contamination when penetration finally may occur. Seams, edges and corners of cartons are the portions most susceptible to penetration because they are subject to breakage or lesser damage.

* Delivered this address at meeting of the American Chemical Society, Buffalo, N. Y., September, 1942. Reprinted by permission of Industrial and Engineering Chemistry.



ALL PHOTOS, U. S. SIGNAL CORPS

These different kinds of field rations are all packed in gas-proof packages.

MULTILAYER CONSTRUCTION. Multilayer material in cartons, providing some air space between layers, is more resistant to penetration by liquid chemical agents than a single layer of the material of thickness equal to the total thickness of multilayer material.

BAGS. Ordinary paper bags of single thickness are not resistant to penetration by liquids. Most papers are porous and readily absorb and transmit liquids. Multilayer bags or sacks of special construction, holding about a bushel, are made. They protect well against war gases and may become standard equipment if needed. The plies are composed of dense kraft paper laminated in pairs with asphalt binder. Cellophane is included in some plies. The multilayer bags are specially suitable for vegetables or for holding a variety of smaller packages or articles of any kind. Grain for horses and mules may be well protected in such bags.

PAULINS. Paulins of large size are convenient protective coverings for bulk foodstuffs for men or animals when it is necessary to transport, handle or store the foods in open air. Paulins protect from the weather as well as from the gases. They serve as auxiliary protection for contents of boxes or bags out-of-doors. The paulins may be canvas impregnated with a variety of substances such as drying oils, synthetic resins, rubber or rubber substitutes. They may be laminated with a layer of impervious material between layers of fabric, or fabric may be coated with the impervious material. In any construction they should be treated to prevent rapid absorption of liquid into the cloth coverings of impermeable layers.

Food must be protected from liquid spray or toxic smokes while in army kitchens and when being distributed to front positions. Tentage, paulins or smaller coverings serve the purposes. Even untreated fabric, prone to absorb liquids and become wet through, can protect against falling drops or liquid splashes, if woven tightly enough to prevent passage of spray, and located to avoid contacting the protected materials. It has in many cases proved effective.

Protective materials

Many types of materials employed in protective coverings have been mentioned previously. Unique properties of some materials, apart from the structures of coverings in which they are employed, may be considered.

METAL FOILS. Metal foils, such as tin, aluminum and lead, are familiar in small packages of confectionery and tobacco. When perfect, the foils are completely impervious to the war gases in any form. Weaknesses lie in the corners and edges of packages where breakage of the foils is prone to occur. Pores may exist. Packages should be tightly sealed. Foils laminated to strong papers are more durable than unlaminated foils. Foil wrappings, completely impervious to gases and perfectly sealed, permit no passage of air. Such wrappings in air transport may burst at higher altitudes because of excessive internal air pressure. Wrappings containing foil have been considered for first-aid bandages. Metal foils are most suitable for small-sized packages.

CELLOPHANE. Among the organic wrapping materials, cellophane or regenerated cellulose has exceptional resistance. Strength may be provided by laminating it to strong papers or fabric. Cellophane alone lacks a desirable degree of elasticity, and tends toward brittleness and low tear strength. Plasticizers eliminate the brittleness and improve elasticity, but reduce resistance to penetration of liquid agents. Moderate amounts of plasticizer give desirable properties and can be tolerated.

POLYVINYL ALCOHOL. PVA has unusually good resistance to chemical warfare agents and makes a fairly tough film. Some plasticizer is required to impart a desirable flexibility. PVA is hydrophylic and may be dispersed in warm water; hence it should be protected from moisture by combination with other wrappings or coatings. PVA films have not yet been employed for food coverings.

GELATIN-GLYCEROL. This combination of gelatin with glycerol plasticizer to impart flexibility is very resistant.

Treatment with formaldehyde or chromates is needed to make the gelatin insoluble in water. Glue can take the place of gelatin in paulins where the glue-glycerol is used as the inner layer between cloth laminations. Resinous varnish coatings on the outer surfaces prevent absorption of liquids by the cloth.

PAPER. Most papers are porous, but the densest forms such as parchment papers have considerable merit. Glue sizing improves resistance. Coatings of varnish or resinous materials add their own superior resistance to that of the paper. Sizings in the heavy cardboards can improve them greatly. Corrugated papers adhered with abundant sodium silicate or glue on inner surfaces make resistant boxes. Freas and West state that, during World War I, tar paper furnished "one of the cheapest and most available means" of protecting foods. Tar paper would not, however, be suitable for foods that absorb tarry odors unless some intermediate protection against the odors were included in the coverings.

SYNTHETIC RESINS. Wrapping materials in sheet or film form are produced from many types of synthetic resins. Resistances are variable but use may be made of many types. Their lacquers or varnishes can be utilized in coatings or for laminating other materials. Materials that may be employed are cellulose acetate and the butyrate copolymer; cellulose nitrate; vinyl chloride, acetate, butyrate and their copolymers; ethylcellulose; glyptals; phenol-formaldehyde and urea-formaldehyde types. Nylon films when commercially available will be excellent. Vinylidene chloride and the new melamine-formaldehyde resins are good.

RUBBER AND SYNTHETIC RUBBERS are particularly suitable in paulins. Natural rubber is less resistant than the synthetics. Their resistances to war gases are comparable to their resistances to petroleum oils (where the synthetics are superior to the natural). All of the synthetic rubbers now or soon to be available are valuable protective materials: Thiokol, neoprene, Vistanex, Buna types, and Butyl rubber; the latter will be an exceedingly valuable addition when available.

Testing impermeable materials

Precise details of the method of testing impermeable materials for resistance to penetration by liquid chemical warfare agents or of the apparatus employed may not be divulged. But a general description of the test with mustard may be given.

A circular sample of the material is sealed between the flanged edges of two suitable glass cups. The upper cup has a tubulure through which 5 drops (0.12 gram) of liquid

Corned beef is packed in hermetically sealed metal cans, which completely prevent contamination of the beef by war gases in any of their physical states or forms. If they become contaminated on their outer surfaces, immersion for half an hour in boiling water followed by a rinse will purify them so they may be used.

Dry milk is shipped in gas-proof drums. These containers have been specially constructed so that they are resistant to gases. However, if they should become contaminated with liquid chemical warfare agents, the food would have to be transferred to uncontaminated containers. Packages will resist the penetration of liquid agents for hours or even days, if they are of superior type, it has been found.

mustard are placed upon the center of the material. The liquid is permitted to spread naturally. The lower cup has two tube connections, diametrically opposite. Air is passed through the lower cup at the rate of 200 cc. per minute and then bubbles through an absorber holding Congo red indicator solution When mustard penetrates the sample, it vaporizes into the air stream, passes to, and hydrolyzes in the indicator solution where an acid reaction is recognized. The time for penetration to occur, as shown by the indicator. is taken as a measure of the resistance of the sample.

Salvaging contaminated foods

Dry foods exposed to gases or vapors and then aired until no odor of the agent remains may be consumed after cooking. This applies to beans, peas, rice, coffee, desiccated vegetables or fruits, and the like. Sartori states that the drier foodstuffs exposed to phosgene can be made wholesome by exposure to a current of warm air. Moist or fatty foods must be regarded as unsafe after exposure although the particular gas, when it is known, may indicate whether consumption is permissible or not. Moist foods exposed to arsenicals should not be eaten. Phosgene hydrolyzes in water to form hydrochloric acid. The amounts of hydrochloric acid developed after most conditions of exposure would not be sufficient to vitiate the foods. An instance occurred in the United States in 1918 when a shipment of foods was exposed to phosgene; live chickens were present and some died. The foods included crated raspberries, green beans in their pods and cabbage. When the foods were examined a few hours after exposure, they retained no odor or foreign tastes and were safely consumed.

Hanslian, relating German experience in World War I, said, "After exposure to clouds of gas, food took on a slight odor of the gas, which it generally lost after being aired and cooked. It could be eaten without hesitation. On the contrary, the eating of food which had come in contact with shell splinters or the liquid contents of gas shells, or even with drops falling from thick gas clouds, was injurious to the health and therefore condemned even if no odor was perceptible."

Droplets of mustard on meat will penetrate no further than 4 to 5 mm. in 48 hours. Carcass meat contaminated with drops of liquid mustard might be consumed in emergency, if the contaminated outer parts were cut away to about one-half inch depth and discarded, and the remaining part was thoroughly boiled. Boiling hydrolyzes mustard. Contaminated parts must be cut from a carcass in such a manner that the knife transfers no mustard from the outer contaminated parts to the inner portions. Sliced meats contaminated with mustard must be discarded.

Foods exposed to war gases should not be utilized for consumption until inspected and released by a medical officer, a qualified chemical warfare officer, or other qualified and responsible persons. They may have testing equipment or the facilities of a chemical laboratory. A detailed scheme for detecting war gases in foods has been published. If no artificial means of testing are available and the contaminant is known, the senses of smell and taste may be resorted to in cases of extreme need.

The official directions of the War Department pertaining to the reclamation of contaminated food supplies are quoted below:

(*a*) The most effective and practical measures for purifying foods, forage and grain contaminated by chemical agents include trimming of exposed surfaces, complete aeration or ventilation, and hydrolytic procedures, such as boiling in water or washing in dilute (5 per cent) bicarbonate of soda solution. Even these measures may be ineffective if the decomposition products are themselves toxic, as in the case of lewisite.

Beans in gas-proof sacks. Sacks at the lower right are not gas-proof. These hold about a bushel and are of the multilayer type.

(*b*) In general, food, forage or grain exposed to low vapor concentrations of chemical agents can be reclaimed by the procedures listed above. It is impracticable to reclaim provisions that have been heavily contaminated by vapors, droplets or dusts, especially of the vesicants, arsenicals or those agents which upon hydrolysis split off other toxic compounds. Highly contaminated supplies, such as those on which chemical agents can be seen with the unaided eye, should be considered spoiled and their decontamination or purification impracticable.

(*c*) While recognizing difficulties of decontamination procedures, it is nevertheless realized that it may be necessary or even mandatory to use these measures under certain tactical or economic conditions, particularly when there is a marked shortage of foodstuffs or where great losses of salvable products are involved. After reclaiming foods, especially those of high fat content, contaminated with the highly acid gases, the taste of such products may be greatly impaired, although the energy content of the foods is not altered. It must be emphasized that the use of any decontamination procedure will be greatly complicated when foodstuffs have been exposed simultaneously to the action of more than one type of chemical agent.

(*d*) When it is necessary to use animals for food following their exposure to lung irritant gases, the carcass meat may be consumed if slaughtering has been done in an approved manner, even while pulmonary injury is still active, provided the other internal organs are normal, since even animals fatally poisoned by these gases die before the agent spreads throughout the carcass meat. Portions of carcass meat directly under the skin areas affected by vesicants should be discarded as they are unusable.

ESSO LABORATORIES

Specimen of fabric being removed from Permeameter. Gas with which specimen is tested enters unit through lower compartment and permeates through material into upper compartment. Rate of permeability is shown on galvanometer at right.

New method for testing gas permeability

The ability of proofed fabric or sheet material to retain or exclude gas is known as permeability. This quality of a product is expressed in terms that indicate the rate at which a specified gas diffuses through the material, viz.: liters per square meter per 24 hours. Obviously, the permeability varies with the material—as well as with the weave, plies and other characteristics of the sheet—and it is fundamentally affected by the nature of the plastic or other substance applied for proofing. Accordingly, manufacturers of coatings are warranted in conducting exhaustive research to improve the effectiveness of their products with respect to permeability. Processors and users of the treated materials also have definite interest in improved coatings because improvements will determine the availability of many classes of wrappings and membranes for important new uses.

Proofed material, to be acceptable for use in military or naval equipment, must be able to function under severe conditions. Wartime requirements have stimulated developments of new coatings and applications which will have far-reaching effects in many industries when peace comes. Contingencies have already disclosed extensive fields of application for proofed flexible sheet materials where they have seldom if ever been used before.

Close control of permeability is a vital factor in the manufacture of acceptable proofed fabrics for balloons, gas masks, life rafts, life jackets and similar products. It is likewise essential in the manufacture of wrappings and membranes that must retain or exclude gases. Close control not only insures a uniform and acceptable proofing, but it also makes possible a considerable saving of material and labor.

The processing of material to retain or exclude gases calls for a method of production testing that requires a minimum of time for determinations and yet provides a convenient means for testing under plant conditions. Two methods heretofore available for this purpose were the interferometer and chemical analysis. Several processors are now being aided by a new instrument that will probably find many applications in industry, both currently and after the present emergency. This new instrument is the Fabric Permeameter, said to be an accurate, rapid and convenient means for production testing of the permeability of fabrics and sheet materials. By utilizing the thermal conductivity method of gas analysis, this equipment quickly determines the rate of permeation of hydrogen, helium, carbon dioxide and other gases through the material under test. Lateral diffusion as well as leakage at the seams can be determined with it. The Fabric Permeameter can also be used to test the effectiveness of various "dopes" with which textiles, papers and membranes are treated. In research work its utility is in no way diminished by the sturdiness built into it for industrial applications.

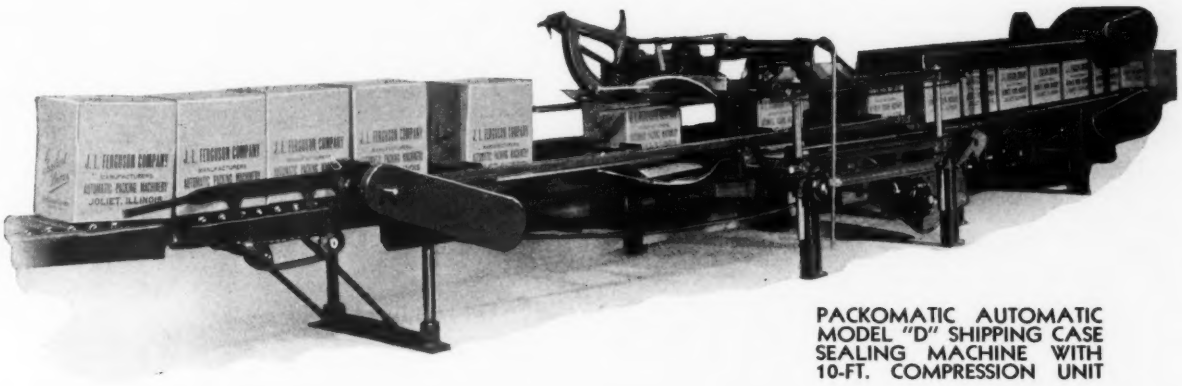
No unusual skill or special laboratory conditions are required for operation of the Fabric Permeameter. The time required per test, including the preparation of the sample, is a matter of minutes. The complete (*Continued on page 108*)

Packaging Dehydrated Food for 1943

The demanded 1943 pack of Dehydrated Foods for the Armed Forces, for Lend Lease and for domestic consumption will be the largest undertaking of its kind ever attempted. Packaging this tremendous amount of dehydrated foods in paper cartons and shipping containers presents many intricate problems.

Our vast experience in packaging all kinds and types of foods in paper cartons and shipping containers places us in a position to help you. Food manufacturers and packers have brought their problems to us for over twenty years. Packomatic equipment is being used in hundreds of such plants in the U. S. A.

WE CAN FURNISH COMPLETELY AUTOMATIC OR SEMI-AUTOMATIC EQUIPMENT



PACKOMATIC AUTOMATIC MODEL "D" SHIPPING CASE SEALING MACHINE WITH 10-FT. COMPRESSION UNIT

CARTON FILLERS

We can furnish volume fillers, auger packers, net or gross weight scales for handling a large variety of products.

CARTON SEALERS

Completely automatic for sealing both top and bottom of cartons, or semi-automatic sealers, for whatever speed you require.

CASE SEALERS

For any required speeds adjustable for all sizes, portable or stationary models. To handle corrugated or fibreboard containers.

Our production is almost entirely devoted to direct War Work, but if you can furnish suitable priority we are anxious to serve you. We're as close to you as your telephone.

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Paper Can Set-Up Conveyors

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PACKAGING MACHINERY

J. L. FERGUSON COMPANY, JOLIET, ILLINOIS

REPRESENTED IN ALL PRINCIPAL CITIES

New tester for bottle cap liners

*J. Donald Charlton and C. L. Lovell**

There has long been a problem of liquid losses in bottles that had been capped and stored, or transported, for a period of several months, as compared with similar bottles that had been freshly filled. Since it is to be expected that the vapor pressure of the contents of the bottle has a direct bearing on the amount of leakage, the surety of a good, leakproof seal is of vital importance to those bottling the more volatile fluids. Particularly is this true in the instance of medicinal liquids where the volume decrease is not nearly as serious as the decrease in efficacy which may result.

The common, screw-on type of bottle closure consists of essentially three units: (1) the outer shell or cap itself, (2) the small disk of resilient material or liner located in the roof of the cap, and (3) the waterproof coating or facing material usually applied to a very thin layer of cardboard and cemented to the liner—this should be the only part of the closure to come in contact with the contents of the bottle. Preliminary investigations clearly established the liner as the chief cause for leakage and so this tester was designed to measure the efficiency of a liner.

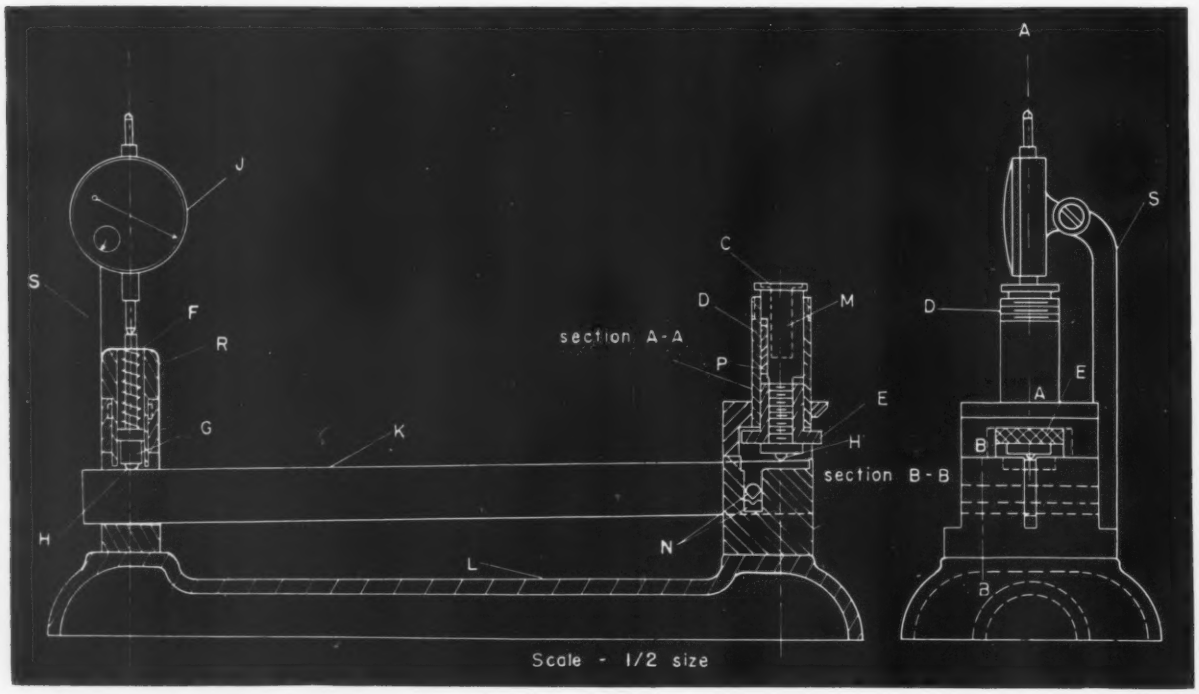
The two most common ways of testing liner efficiency are the Randall and Stickney gauge method, as employed by the Cork Institute of America, and the comparison of "On Torque" and "Off Torque" (Application vs. Removal Torque) which is run by the individual bottlers. The first method is no accurate criterion because actual bottling conditions are not encountered during the test. The "Off Torque" theory is valueless mainly because of the non-uniform adhesion of the plastic facing materials to the edge of the bottle. These liner facing materials, with few exceptions, are of such a nature that they flow under the pressure created by tightening the cap and form a bond with the container. The force necessary to break this bond is the unpredictable component of the measured "Off Torque."

This tester eliminates both of these faults, for it is designed on the principle that the effectiveness of the seal of a closure is a direct function of the pressure exerted by the cap, through the liner, against the edge of the aperture of the bottle. It is this pressure which the tester measures and it is the "Per Cent Pressure Decrease" over a definite time period that is used to express efficiency—the lowest value of this term indicating the most efficient liner. Naturally, for all purposes of comparison, it is necessary that the caps containing the liners are initially screwed on the tester with the same inch-pounds of torque.

Although the drawing and photographs herewith show the tester as used for a single type and size of closure, it is not at all limited in that respect. Different sizes and types to correspond with those closures in actual use may be tested by modifying the head (see drawing) *D*, of the tester. Variations

* Purdue University Department of Chemical Engineering, Lafayette, Indiana.

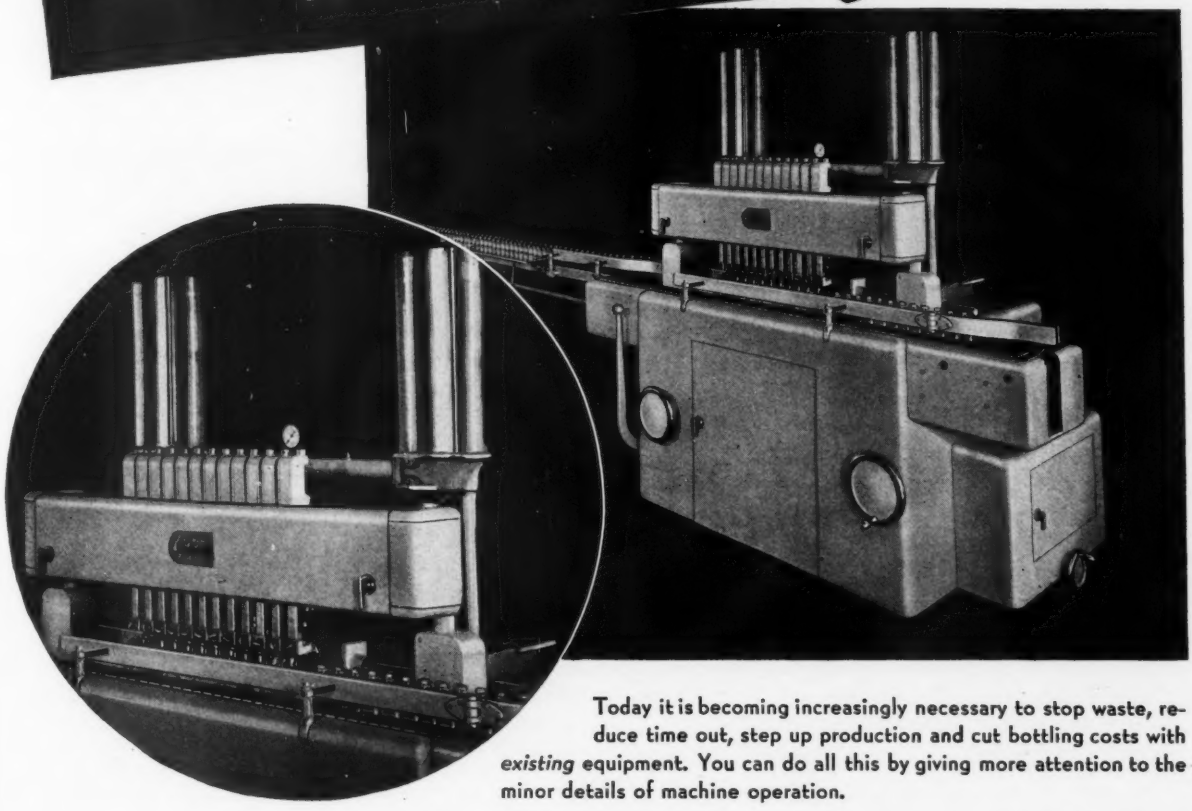
A sectional assembly drawing of the tester, showing how it is constructed and how it functions.



"SPEED" PRODUCTION says:

KEEP AIR and LIQUID LINES TIGHT

FOR BETTER FILLING MACHINE OPERATION



Today it is becoming increasingly necessary to stop waste, reduce time out, step up production and cut bottling costs with *existing* equipment. You can do all this by giving more attention to the minor details of machine operation.

Take vacuum fillers, for example. You may be operating Pneumatics or some other make, but in any case you can boost your production by being certain that all air and liquid lines are tight. This will prevent loss of vacuum which could slow up filling and cause wasteful drip.

Keep the oil in the vacuum pump up to the right level and don't overload the pump by running at a higher vacuum than is needed. Change the water in the separator tank or fume trap at least twice a week. Watching these details carefully *will* increase your operating efficiency.

Pneumatic's RIGID FILLING HEADS are easy to keep tight. There are no moving parts, in contact with liquid, to wear and cause leaks. The twin overflow bowls and patented filling nozzles assure fastest possible filling and freedom from drip.

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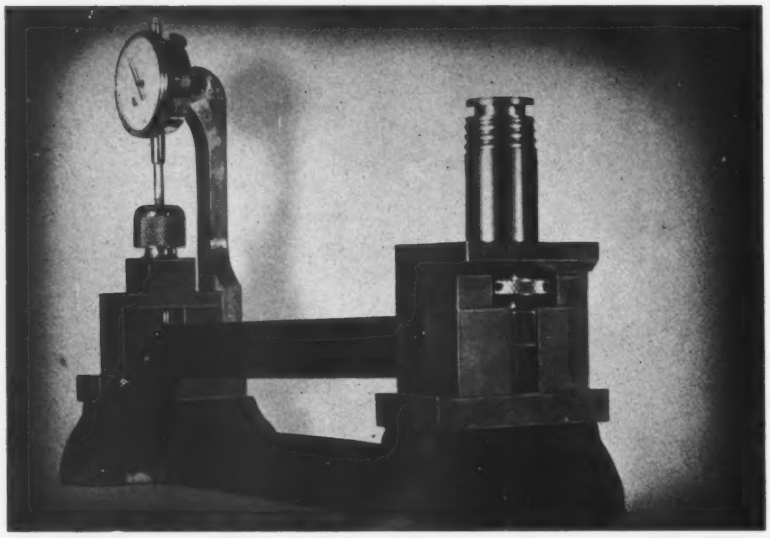


Left. Side view of the tester, with the indicator gauge at the extreme left and the tester head at the right. By modifying the head, different sizes and types of closures may be tested. Below. Front view of the tester. The beam between tester head and gauge is supported at one end by a set of knifed edges, but the other end is free to move in a vertical plane except for whatever restriction is made by coil spring.

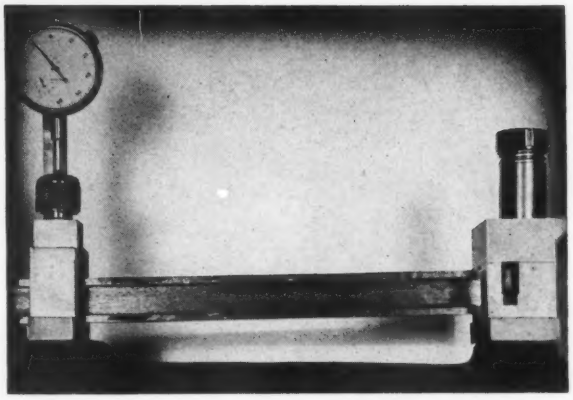
in diameter of cap, type of cap, type of threads, pitch, etc., may be incorporated in a set of easily installed tester heads.

A sectional assembly drawing of the tester appears in the first illustration and a composite idea of the instrument may be obtained from the photographs.

The tester consists of a cast iron base (*L*), a beam (*K*) and knife edges (*N*) of hardened steel, a steel spring (*F*), an indicator gauge (*J*), and brass auxiliary equipment used either to operate or support the above-mentioned units. The beam (*K*) is supported at one end by a set of knifed edges (*N*). The other end of the beam is free to move in a vertical plane save for whatever restriction is imposed on it by the coil spring (*F*).

At the right end of the front view of the sectional drawing there is a fixed, cylindrical sleeve (*D*) on which have been cut threads having the same dimensions as those on the bottles used. This sleeve also contains the movable piston (*C*), having a face duplicating the rim of the mouth of the bottle. The bottle cap is placed over the top of this unit and turned down. As it is turned down, the liner on the roof of the cap forces the piston down against the top of the beam. Contact between piston and beam, as well as between spring and beam, is made by means of a steel ball (*H*) which acts as a single-point contact. The piston is hollow (*M*) for some distance so that any of the liquids encountered in bottling may be put into the reservoir to create as nearly actual conditions as possible. It will also be noted that the piston is keyed (*P*) so that when the cap is rotated, the piston will not rotate. The knurled wheel (*E*) is a device for raising or lowering the piston with respect to the top edge of the fixed sleeve. Aside from providing for a preliminary adjustment before testing, the knurled wheel can be used to maintain a constant pressure on the cap by turning it so that the reading on the indicator stays constant. Its other application will be discussed later. The distance from the knife edge to the right-hand contact point is about $\frac{1}{2}$ inch, whereas the distance from the knife edge to the left-hand contact point is about 10 inches. This gives approximately a 20 to 1 magnification of movement. These dimensions do not have to be exceedingly exact because the machine is calibrated by direct loading of the threaded side so that a curve of "Indicator Reading vs. Pounds of Pressure" easily converts data into usable form.

At the left-hand end of the tester, there is a small piston (*C*) which holds the ball bearing (*H*), affords a platform upon



which one end of the coil spring (*F*) rests, and also has a small shaft which goes through the coil of the spring and protrudes above the cap to make contact with the shaft of the indicator gauge (*J*). It is important that this be a close enough fit so that the two shafts always meet and yet it is necessary that movement be free and unrestrained except for the steady, constant force of the spring. The brass cap (*R*) is screwed over the top to form the resting place for the other end of the coil spring and the bracket (*S*) is designed to support the indicator gauge firmly in position.

1-Day Test—No. 1114 Composition Cork Panaseal Liner

Tester Number		0	1	2	Average
1	Initial pressure	96.0 lbs.	99.0 lbs.	94.5 lbs.	
2	Final pressure	72.0 lbs.	79.0 lbs.	74.0 lbs.	
3	Decrease	24.0 lbs.	20.0 lbs.	20.5 lbs.	
4	Per cent decrease	25.0 %	20.2%	21.7%	22.3%

Three of these testing machines were operated simultaneously on each sample of liner material in order to get check results. Illustrated are typical sets of data for 1-day and 4-day tests on two kinds of liner material each put on the tester with an initial torque of 21.25 inch-pounds. The sample calculations pertain to the (*Continued on page 114*)

QUALITY NEVER TAKES A HOLIDAY

. . . when machines are kept "tuned up" by men like this

GEORGE SHARPE has had fourteen years' experience in the maintenance and repair of glass machines. He's proud of those years, for they've brought him a sure, swift touch with tools. He's even prouder of the fact that his skill, and the skill of men like him, keep the machines in Armstrong's plants always in top condition.

That pride of craftsmanship is typical of the men and women who make Armstrong's Glass. They feel that, in their own special fields, they're artists. And they know that the production of top-quality glass is still an art.

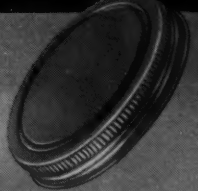
Because of George Sharpe and men like him, the machines in Armstrong's plants are steady workers, turning out glassware of the consistently high quality you expect of it, glassware that does a real packaging job and is saving tons of precious metals. Their experience and skill are your assurance that Armstrong's Glass will always be top-quality glass.

For the story of Armstrong's Glass and the men and women who make it, write for the new free booklet, "Men and Glass." Armstrong Cork Company, Glass and Closure Division, 5902 Jackson Street, Lancaster, Pennsylvania.

The employees of Armstrong's Closure and Floor Division Plants in Lancaster have been awarded the joint Army-Navy Production Award for high excellence in war production.

ARMSTRONG'S GLASS

and **ARMSTRONG'S CLOSURES**



WASHINGTON REVIEW

G. T. KELLOGG, *Washington Editor*

● **Paper Use Cut**—Suspended, like Damocles' sword for these many months, the WPB orders curtailing all paper uses "dropped" in January and took what their drafters hope will amount to a neat slice from paper consumption throughout industry.

In the folding and set-up box industry, simplification of design and elimination of what WPB termed "frills" (large folds, flaps, unnecessary sizes) was ordered by Limitation Order L-239.

Also ordered was elimination of "dummy" boxes for display, elimination of boxes for bottled alcoholic beverages, a 35 per cent reduction in production of boxes to be used for packaging retail merchandise and a definite restriction in the quality of paperboard to be used for packaging of gift and similar uses traditionally calling for quality boxes.

The main order (M-241), affecting all paper production, cut manufacture of boxboards, absorbent papers, groundwood paper, book papers and cardboard to 80 per cent of last year's production for each mill. Special industrial boards were cut to 90 per cent of last year, along with newsprint. Wrapping paper manufacturers will hold production to 85 per cent of last year and only the production of tissue paper and container board will remain at the same figure as 1942. Elaborate inventory restrictions also are included. Converters were given a "limited" and a "banned" list. Under the first, they were permitted to manufacture any of the products listed, up to 90 per cent of last year's output; none of the items on the second, or "B" list, may be made.

Commercial printers likewise come under the orders in an all-inclusive provision limiting them in 1943 to 90 per cent of their total press "throughout" in 1943. This proviso is effective whether the purchaser of the printing furnishes the paper or it is taken from the printer's stockpile. It was emphasized at WPB that it's the tonnage of paper that passes over the press that must be curtailed.

Book publishers were cut to 90 per cent of 1942 total tonnage, with certain exceptions, as were magazine and newspaper publishers.

And that's not all. Paper users in all branches of industry may as well make their cuts now with the idea that more will have to be made later in the year, perhaps around July.

● **Number of Bag Sizes Cut**—WPB delved into the use of paper and textile shipping bags and brought out an order permitting use of only six bag sizes by processors or packers of beans, cement, chemicals, foods, fertilizer, flour, meal or cereals, nuts, plaster, potatoes, rice, seeds, starch or sugar. The permitted sizes are 2, 5, 10, 25, 50 and 100 lbs. However, the common brown paper grocery bag is unaffected. (Amended order M-221.)

● **No More Tin in Shaving Cream Tubes**—WPB has prohibited use of tin in shaving cream tubes, ordered reduced to 3 per cent of tube's weight the tin in toothpaste tubes, cut amount of toothpaste to be packed in tubes containing tin in 1943 to 75 per cent of 1942, and prohibited manufacture and use of all-tin tubes used by druggists to fill physicians' prescriptions. WPB hopes this will save 100 tons of tin in 1943. (Amended Conservation Order M-115.)

● **Canning Order Liberalized**—Liberalization of Conservation Order M-81 authorizes canners to pack some four million more cases of canned soups in 1943 than would have been possible under the order before the amendment of January 13. Order also covers packers of chile, luncheon meat and other products.

● **Baking Powder Cans Get Respite**—While the industry takes time to work out plans for development of a baking powder can using no metal at all, WPB has permitted baking powder manufacturers to continue until June 30 the use of fibre cans with metal ends, under another amendment to M-81.

● **OPA Seeks Formula for Packaging Cost**—In an effort to provide relief for packers, wholesalers, retailers and others handling packaged foods, OPA is attempting to work out a formula whereby any substantial additions to retail cost of product by virtue of essential changes in packaging material or design may be passed along to the consumer without violation of maximum price regulations. As yet the order—if there is to be one—is in a nebulous stage.

● **Questionnaire Cutting Bill Signed**—The Murray Bill, providing for investigation into and elimination of many of the duplicating government questionnaires which businessmen are asked to fill out, has been signed by President Roosevelt, and is now Public Law No. 831, 77th Congress.

● **No Compulsory Grade Labeling**—Yet, lest some readers may have gathered from Modern Packaging's handling of the OPA release on compulsory labeling last month that an order providing for grade labeling already had been issued, we report that, up to press time this month, it still isn't out, but there may be an order soon.

● **Congress Urged to Aid Small Business**—In a five point program advanced early this month by the Murray Committee (on Small Business) it was suggested that the government's plans revolve around the following principles: (1) Small business must be more effectively used in wartime. (2) Small business must be more effectively used in meeting essential civilian needs. (3) Small business requires assistance in adjusting to war conditions. (4) Small business needs better access to capital. (5) If small business is to make its maximum contribution to American life, the Federal Government must improve its approach to small business problems.

● **M-104 Cuts Uses of "Critical" Closures**—Latest amendment to Conservation Order M-104 (which incorporates Conservation Order M-119) specifies the amount and kind of products that may be packed for civilians in 1943 in glass containers with closures of "critical" materials. Restrictions hit the use of steel, tinplate, blackplate and rubber for closures for glass containers, and may become "tougher." (Oil refiners are making plans to go to other types of containers, having already abandoned metal cans, when restrictions go so far that glass packaging is not practicable.)

● **"Cut Size—Cut Price"**—OPA has informed manufacturers, wholesalers and distributors of chemical products that they may not reduce the size of their containers, in changing from tin to glass or other packaging, without reducing their prices.

● **Cellophane Admendment**—Further restrictions in the use of cellulose film were made January 4 through the issuance of an amendment to Limitation Order L-20. Entire order is reprinted in another part of this issue.

● **Thermoplastics**—Use of thermoplastic materials was prohibited in the manufacture of a list of more than 250 items mentioned in Order M-154 as amended January 9. The forbidden list includes advertising displays and novelties, various types of dispensers, cosmetic containers, and other items affecting the use of such materials in packaging. Materials affected are cellulose acetate butyrate, cellulose acetate, plasticized cellulose nitrate, except that used in explosives and protective coatings, plasticized ethyl cellulose, polymers of styrene.

● **Glass Containers**—Amendments to L-103, issued January 2 and 4, further restrict the use of glass for containers holding malt beverages and wines. The amendments limit such containers to sizes, molds and specifications with regard to weight and identification on molds as described in the order.

"Of course, I'll only use the lighter when I'm out of matches."

OF COURSE, YOU'LL USE ALUMINITE
IT LOOKS · · · FEELS · · · HANDLES · · · LIKE ALUMINUM FOIL

Examine carefully the perfect metallic finish of our material. It can replace your aluminum foil or composition foil or tin foil wrapper no longer available.

It is non toxic
It can be made waterproof
It can be made heat sealing
It can be made grease resisting

You doubt it? . . . . . well, write us for samples and information. We will be glad to tell you all about it and solve your packaging problems.

KELLER-DORIAN CORPORATION 516 W. 34th St., N.Y.C.

HOLDER OF THE COVETED TREASURY FLAG

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KELLER-DORIAN CORPORATION 516 W. 34th St., N.Y.C.

What did *you* do today ... for Freedom?

Today, at the front, he died ... Today, what did *you* do?
Next time you see a list of dead and wounded, ask yourself:
"What have *I* done today for freedom?
What can I do tomorrow that will *save* the lives of
men like this and help them win the war?"

To help you to do your share, the Government has organized the Citizens Service Corps as a part of local Defense Councils, with some war task or responsibility for every man, woman and child. Probably such a Corps is already at work in your community. If not, help to start one. A free booklet available through this magazine will tell you what to do and how to do it. Go into action today, and get the satisfaction of doing a needed war job well!
EVERY CIVILIAN A FIGHTER

CONTRIBUTED BY THE MAGAZINE PUBLISHERS OF AMERICA.

KEEP YOUR EAR TO THE GROUND

Some of these items may be just rumor. In these unusual times, however, too many things are happening in the laboratory to wait until every development is commercially available. Some of the items are confidential, so please don't ask for particulars yet.

● **Zein—a Product from Corn**—Zein is the alcohol-soluble extract of the protein in corn. Because of its complete resistance to all hydrocarbons, it is being used widely in the coating of paper for the packaging of a number of products, including foods, where greaseproofness is essential. Paper treated with this material is also being used to wrap greased machinery parts as an aid in the prevention of corrosion. Zein is also recommended for the formation of a greaseproof film. Such coatings can be heat-sealed, are said to be highly scuff-resistant and lend themselves readily to pigmentation.

Zein is at present being manufactured by the Corn Products Refining Co. under the trade name Mazein. Corn Products hopes, however, that other corn refiners in this industry will be making Zein shortly because of its availability as a by-product of the wet milling process in refining corn.

Unlimited possibilities for the development of this new chemical lie in waiting, according to the company, and among those listed as already in the experimental stage are: plastics (ranging from soft to hard), paper treatment and coating, textile and leather finishing, adhesives, laminations, wood finishing, floor coverings, pressure sensitive tape.

Zein is unique among commercially available proteins, the company stated, in that it is soluble in alcohol but is relatively inert chemically. In its uncured state it is thermoplastic and tends to soften but not dissolve in water. Resistance to water can be markedly improved by curing with aldehydes or similar materials. One interesting feature of this curing reaction is that it is sufficiently slow to permit a high degree of control.

● **Paper Closures for Coffee Jars**—Owens-Illinois Glass Co. has announced a new cap made of paper, adhesive and special sealing materials to replace metal closures on jars for vacuum packed coffee. The new closure requires no metal, tin or rubber. The new closure is not provided with a thread, yet fits substantially all of the present glass coffee jars and can be applied at the roasting plant with present vacuum closing machines. Interior surface of the cap is tacky to the touch. This is said to be the secret of its vacuumizing property and its practicability for resealing. It can be pressed down after each use, thus tightly closing a jar for re-use. It is expected these caps will be seen soon on many popular brands when existing supplies of metal closures are used up. This cap, it is said, is suitable only for coffee and was developed specially for use on existing vacuum closing machines, which would otherwise be idle due to restrictions on metal for closures. Owens-Illinois reported that it is experimenting with a screw cap for other products.

New paper cap, it is said, will vacuum seal glass coffee jars. Requires no tin, steel or rubber. Cap has no thread. Interior tackiness gives closure vacuumizing property.

● **Vestpocket Coffee Pack**—A tiny package scarcely larger than a book of matches contains enough coffee for from three to four cups, depending upon how strong you like your coffee. Secret of the small pack is the fact that the coffee has been compressed and then dehydrated. The Auto Ordnance Co. of Greenwich, Conn., makers of the Thompson sub-machine gun, have developed the process for making compressed dehydrated coffee and the Du Pont Co.'s cellophane division has collaborated in solving the packaging problem. As each block of coffee is compressed, it is immediately wrapped in moistureproof cellophane, which is then heat-sealed. Eighteen of the blocks make up a pound which can be put into a carton about the size of a frosted food vegetable carton. Twenty-four pounds of these packages occupy 1150 cu. in., whereas 24 lbs. of coffee in tins occupy 2455 cu. in. of storage or shipping space. The WPB and the U. S. Army Quartermaster Corps have been much interested in the compressed dehydrated food idea because of its additional saving of from 30 to 80 per cent in shipping space. Auto Ordnance believes that the coffee pack will find general postwar civilian acceptance, since they maintain that the process preserves the aroma, strength and flavor of the coffee and that the cellophane wrap used furnishes adequate protection.

● **Can Industry Plans Postwar Containers**—As a vital accessory to the production of a most important munition of war—food—the can-making industry has been streamlined to the needs of the armed forces. Its production of containers is now devoted, almost entirely, to the packaging of food and other essential commodities for the armed forces, lend-lease and absolutely necessary civilian consumption. Continental Can Co., Inc., announces that their present extensive scientific research work will not only add further advantages to the tin can, but that its research laboratories are busy studying new materials and combinations of old materials that may be found suitable for use in the packaging of some products formerly requiring metal containers. The company is gearing itself to supply future packaging needs of the postwar period.

● **New Adhesive**—A series of vegetable base adhesives designed for a diversified range of applications in all industries has been developed by Paisley Products, Inc. The adhesive base, it is claimed, is made from non-critical materials, provides a range and flexibility of action similar to that of animal base adhesives and is of low cost. Application may be made either by machine or brush, diluted with water or used as received by the purchaser, according to the maker.

CROWN CAN *has a real interest in that Baby!*

Recognize it? If you don't... the Japs do... to their sorrow.

It's a Vought-Sikorsky (Corsair) ... fastest fighting plane of the United States Navy.

The skill and craftsmanship that is producing Crown Cans is also employed in making cowlings for the engine of this Vought-Sikorsky fighter.

And here's what Mr. J. M. Barr, Assistant General Manager, of Vought-Sikorsky Aircraft, says about how well Crown is doing its part of the job:

"Mr. Schramm says the fit is excellent and the workmanship leaves nothing to be desired... It is the desire of this division to take pride in the work of its subcontractors and we certainly feel justified in the case of the Crown Can Company."

"The workmanship leaves nothing to be desired." Thank you, Mr. Barr!

But that's an old story to those who have known for years that the workmanship which goes into Crown Cans was always of that same standard... just one more example of how Crown Can is serving the Nation.

CROWN CAN COMPANY, PHILADELPHIA • NEW YORK • *Division of Crown Cork & Seal Co.* • *Baltimore, Md.*

★ ★ ★ CROWN CAN ★ ★ ★

U. S. patent digest

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 10 cents each.

COSMETIC CONTAINER. A. R. Botham (to Coty, Inc., Wilmington, Del.). U. S. 2,304,758, Dec. 8. A container comprising a body, a cover member having two sections, said sections being swingably connected to each other.

CONTAINER. G. A. Goodwin, Shaker Heights, Ohio. U. S. 2,305,349, Dec. 15. A frozen food container severable along weakened lines, comprising a medial weakened line on two sides and the top of the container to facilitate the severing of the container in two halves.

CIGARETTE PACKAGE. I. L. Johnson, Glendale, Calif. U. S. 2,305,428, Dec. 15. A cigarette package including an inner and an outer wrapper folded around a cigarette pack; a tear-off line on the inner wrapper and a tear-off line on the outer wrapper, said tear-off lines being juxtapositioned and arranged to encompass a corner portion of the package with perforated portions of the inner wrapper exposed at an end of the package.

PAPER CUP. W. G. Jopson (to C. A. Reed Co., Williamsport, Pa.). U. S. 2,306,168, Dec. 22. A paper cup having a wall member provided with an outwardly projecting top marginal bead and provided with a transverse strip element free for a portion of its length from said wall member, and a handle strip having its upper end portion downwardly turned beneath said bead and extending between said free portion and said wall member.

CONTAINER. R. O. Neubecker (to Tonawanda Corrugated Box Co., North Tonawanda, N. Y.). U. S. 2,306,343, Dec. 22. A construction of container having a pair of flaps at the upper edge of each end member, each of said flaps meeting and interlocking with the opposed flap on the other end of the member, end flaps are folded to overlay side member flaps and folded to constitute a handle.

COMPOSITE CONTAINER. V. Hendrickson, Los Angeles, Calif. U. S. 2,305,705, Dec. 22. A container comprising a hollow body having an open top defined by a fibre side wall of continuous curvalinear form, a metal top end closure and upturned hook edge in clinching engagement with the outer side of said side wall and acting to press the fibre side wall into sealing engagement with said continuous flange which is part of the container.

CONTAINER STRUCTURE. H. A. Scott (to Hans A. Eggers, Van Wert, Ohio). U. S. 2,306,255, Dec. 22. A container of cylindrical body of fibreboard or the like with open upper end portion being preformed into annular form, and a preformed closure adapted to be applied removably to said upper end.

CONTAINER DISPLAY STAND. C. H. Erne (to American Can Co., New York, N. Y.). U. S. 2,303,344, Dec. 1. A receptacle holder and display stand comprising a sheet metal plate constituting a front wall section having a depressed countersunk pocket formed therein for receiving a predetermined number the of receptacles.

SAFETY MATCH BOX. J. A. Bye, Minneapolis, Minn. U. S. 2,304,536, Dec. 8. In a safety match box and the like, a casing, a match container movable into and out of said casing, a first latch member within said casing releasably securing said container in said casing.

CONTAINER CLOSURE. H. L. Carpenter, Brooklyn, N. Y. U. S. 2,304,539, Dec. 8. In a container having a fibre body and a closure therefore arranged in the end of the body and contacting with the body, a circumferentially extending metallic clamping rim divided at one point fitting over the end of the container carrying said closure.

DISPLAY BOX. A. DiDomenico, Forest Hills, N. Y. U. S. 2,305,240, Dec. 15. A cover for a display box of the character adapted for application to a base having a raised central portion completely enclosed by said cover when positioned upon the base of the box.

SHIPPING ARRANGEMENT AND COMBINATION DISPLAY AND CONTAINER STRUCTURE. M. Ullman (to Auburn Rubber Corp., Auburn, Ind.). U. S. 2,305,332, Dec. 15. A combination display and container arrangement including an upright display portion and a forwardly directed combination container and base integral therewith.

CONTAINER CONSTRUCTION. O. W. Wentz (to U. S. Automatic Box Machinery Co., Inc., Boston, Mass.). U. S. 2,305,364, Dec. 15. A paper container made of a single sheet and comprising a four-sided bottom, two opposed sides of which are extended to form opposed end walls, said end walls each having lateral extensions respectively overlapped to form two side walls.

CONTAINER CONSTRUCTION. O. W. Wentz (to U. S. Automatic Box Machinery Co., Boston, Mass.). U. S. 2,305,366, Dec. 15. Much the same as the above two with a few more changes.

PACKAGE AND METHOD OF MAKING THE SAME. J. Yates (to Pneumatic Scale Corp., Quincy, Mass.). U. S. 2,305,371, Dec. 15. A package comprising a carton having a body portion and top and bottom flaps, a partial lining for the carton affixed to said body portion below the mouth thereof and being unattached thereto for a substantial distance below the mouth thereof.

CLOSING RING FOR CONTAINER. H. D. Ellis (to Wilson & Bennett Mfg. Co., Chicago, Ill.). U. S. 2,303,625, Dec. 1. The combination with a container having a peripheral bead at the top thereof and having a cover co-acting with the bead to make a tight closure, of a split contractable channeled ring for fastening the cover to the bead.

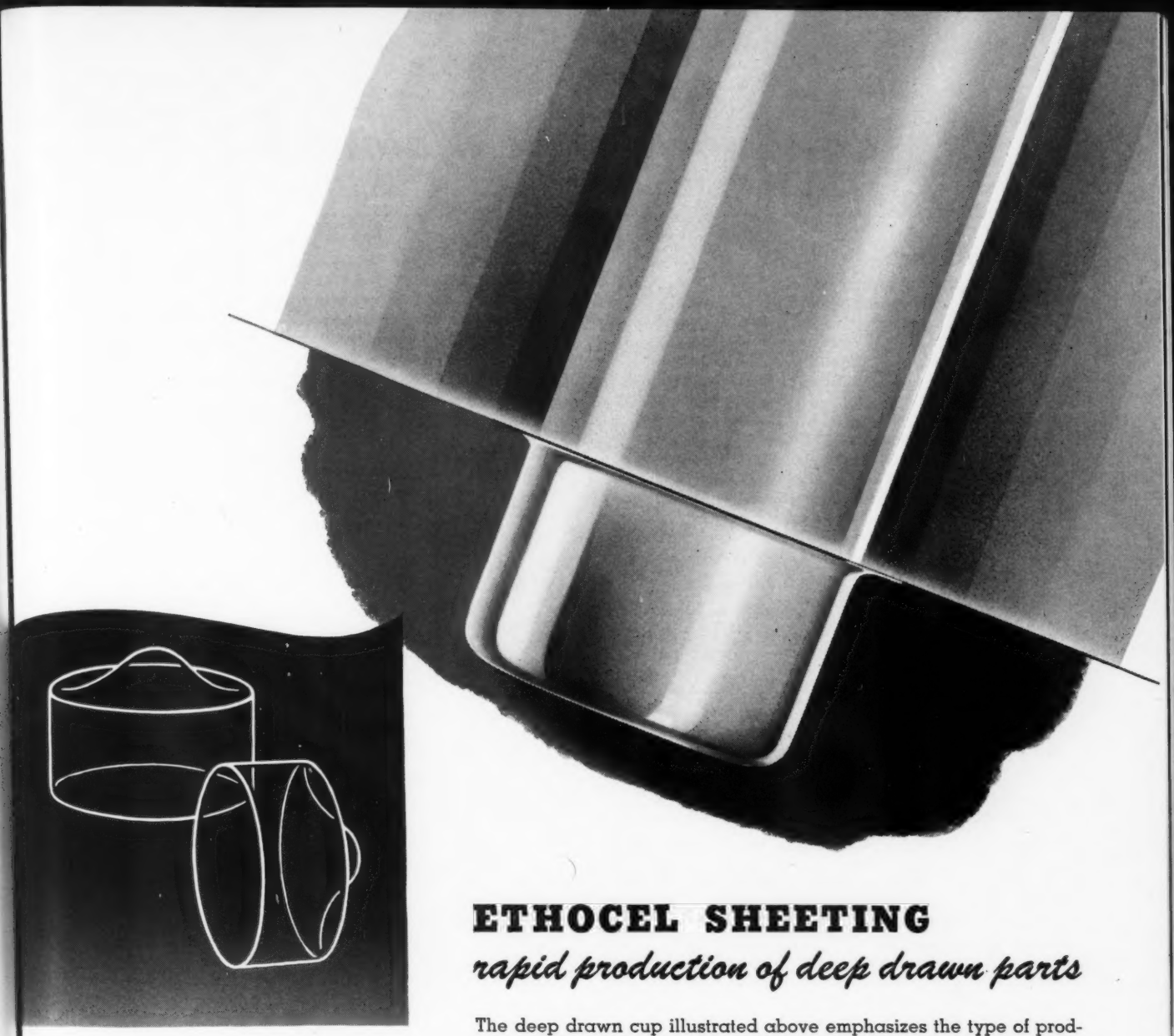
CAN. H. Sebell (one-half to A. H. Parker, Lexington, Mass.). U. S. 2,305,449, Dec. 15. A can comprising a can body, a one-piece can end secured to the upper edge of the can body by a lock seam and formed with a cylindrical circumferential wall.

CONTAINER. J. Henchert (to Continental Can Co., Inc., New York, N. Y.). U. S. 2,305,528, Dec. 15. A container comprising a body portion having the edges thereof secured by an interlocking side seam throughout the major portion thereof, but terminating at the ends in a lap seam.

CARTON AND METHOD OF MAKING SAME. G. C. Nydegger, Los Angeles, Calif. U. S. 2,306,078, Dec. 22. In a flat collapsed carton, a rectangular center panel comprising an outer marginal top wall portion.

CONTAINER. M. G. Biberthaler (to W. R. Becher of Wethersfield, Conn., a one-half interest). U. S. 2,306,328, A carton comprising side walls each having a flap extending inwardly on said carton with the edge thereof substantially in abutment with the edge of an opposite flap on the carton.

METHOD OF APPLYING CONE WRAPPERS. S. Goldberg (to Universal Paper Products Co., Chicago, Ill.). U. S. 2,303,354, Dec. 1. A method of applying a wrapper to an edible ice cream cone.



20 MM. CANNON COVER

Protecting the muzzles of 20 mm. cannons on our fighting planes is this small, but highly effective, deep drawn cover, made of Ethocel Sheeting.

It keeps the gun clean in all types of weather, minimizing the corrosive action of salt spray and eliminating sand and dirt. Weight is negligible (100 covers per pound) and wind resistance is reduced.

The cap is shot off when the gun is fired and replaced with a new cover on landing. Quantity production, necessary to meet the ever growing demand for this part, is easily achieved with Ethocel Sheeting.

ETHOCEL SHEETING

rapid production of deep drawn parts

The deep drawn cup illustrated above emphasizes the type of product easily fabricated of Ethocel Sheeting by drawing processes. Exceptional ductility permits drawing from sheets as thin as .003" and as heavy as .020". The draw itself can be made to a depth equaling the diameter in a single operation. Mass production of more than 1000 pieces per hour is possible!

Moreover, Ethocel Sheeting's high ductility and low temperature flexibility are retained after drawing. This is of vast importance in many products which must serve under temperature extremes varying from —70° to as high as 200° F.

These factors, combined with clarity and toughness—original characteristics retained after drawing—make Ethocel Sheeting valuable for many wartime applications.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • St. Louis • Chicago • Houston • San Francisco • Los Angeles • Seattle

PLASTICS

STYRON SARAN ETHOCEL

DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Equipment and Materials

SLITTING SERVICE

Realgold Bobbins Co. states that it is making available the service of its precision slitting machines, equipped with the most modern circular knives, shear system, etc., which permit the machines to do fine and exact slitting of any material coming in rolls from the thinnest foils and tissues to paper, fabrics, artificial leather and other materials. The Realgold Bobbins Co. is a manufacturer of synthetic cork paper, synthetic mother of pearl foil and synthetic metal film as well as other materials to be used in decorative as well as functional packaging. Due to present restrictions, however, the company's production of these lines has been greatly limited. Therefore, the company has established a slitting service, believing that many manufacturers who have had to change the size of their packing material, among other things, would welcome a service of reslitting and rewinding stocks of available packaging material and thus help the war effort by using up old stocks instead of replacing them with new.

Headquarters of the company had formerly been in Amsterdam, Holland. When in 1939, K. J. Ptasnik, a director of the firm, came to the United States to establish a branch plant, the war in Europe broke out. Mr. Ptasnik urged that equipment from Holland be sent to America immediately so that the business could be started here. That was done and it is now the only plant belonging to the Realgold people, the Amsterdam plant having been commandeered by the Germans.

PRE-HEATER ATTACHMENT

Of interest to the dehydration industry and to firms packaging supplies for the armed forces and lend lease is a pre-heater attachment for a rotary hot crimp sealer, developed by Pack-Rite Machines. It was designed to widen the scope of materials sealable on the firm's machine, which is being used widely on heat-sealing cellophane, etc. The attachment makes possible the sealing of certain laminated foil paper, heavy paper containers with thermoplastic liners, laminated paper to cellophane envelopes, among other materials. The pre-heater is installed on the right side of the machine directly ahead of the crimping rolls and is thermoplastically controlled independent of the regular thermostatic control for the crimping rolls. To insure a perfect seal by properly pre-heating the material before it enters the crimping rolls, the paper to be sealed is guided through the pre-heater at a speed correspondent with the speed of the crimper rolls.

TEXAS TIN SMELTER

It is now two years since negotiations were concluded for the purchase by an agency of the U. S. Government of a substantial supply of Bolivian tin ore. Up to that date, November 4, 1940, the United States imported substantially all its tin in the form of metal, for this country had neither domestic ore supplies nor a domestic smelting industry. There was not a tin smelting industry of consequence anywhere in the Western Hemisphere. Two years later, a modern tin smelter has been in successful operation for seven months and is in the process of being enlarged to the point where in addition to being the most modern smelter, it will also be the largest. Original plans for this plant have been, since Pearl Harbor, greatly expanded. Although the smelter is already operating in excess of the capacity for which it was originally designed, it is now intended to increase that capacity to the equivalent of the entire tin-ore production now available to the United Nations; for, although there are tin smelters operating in Great Britain, the Belgian Congo and in China, the possibility of enemy action damaging all or any of these plants must be considered. Should that happen, the government tin smelter, constructed with Defense Plant Corp. funds and operated for account of Metals Reserve Co. will be able to handle all the ores now going to the British and other United Nations plants.

It normally takes 30 lbs. of tin to make a tin of tinplate, so that a "tin" can is really only a little more than 1 per cent tin and more than 98 per cent steel, but with new tinplate processes this figure may be cut 10 to 15 lbs.

HUMIDIFIER

Designed for industrial, office and institutional use on steam-heated systems carrying less than 20 lbs. pressure, the new E-Humidifiers, made by Techtmann Industries, are quickly installed on the feed-end of radiators or on steam-risers at points where the condensate will return to the boiler when the radiators are turned off, the company explains. It is compact and entirely automatic in operation and diffuses exact amount of moisture into the air at the proper time, according to the maker of the humidifier.

INDUSTRIAL THERMOMETERS

Wheelco Instruments Co., Chicago, has issued information on its complete line of industrial indicating, recording and control thermometers. The recording control and indicating control thermometers are based on the company's "electronic principle" of effecting control without mechanical contact between measuring and control sections of the instruments, the firm states. The Indicating Therm-otrol combines the Wheelco electronic principle control with an accurate indicating thermometer. This instrument provides control sensitivity plus a continuous indication of temperature. Indicator-recorder combinations can be supplied to indicate or record and control at one point and indicate or record the temperature at one additional point. The instrument is adapted to measuring, indicating and controlling temperatures in all types of processes where the temperature does not exceed 1000 deg. F., according to the maker. The full data about the firm's thermometers are given in five bulletins which carry graphic illustrations of the instruments and explanations of their construction and performance under varying conditions.

HONOR ROLL PLAQUE

An improved honor roll plaque embodying a number of new features is now available for firms wishing to honor their employees in service with the armed forces of the nation. The plaques are manufactured and distributed by M. M. Gottlieb Associates, Inc., Allentown, Penna. The individual name plates on the plaque are held in place without any nails or screws and therefore can be re-arranged at any time. Thus, if alphabetical arrangement of the names is desired, it can easily be maintained. The plaque is made of hand-rubbed walnut panel upon which are mounted clear extra thick glass plates which are decorated in gold, red and blue. Special composition name plates are gold imprinted and are held in place under the glass plates. Names may be inserted merely by sliding the new plate into position. Plaques are available in sizes ranging from 34 names each on up.

Wartime Adhesive Service

ROUTINE CALLS: With many of our Service Engineers now in military or Government positions, and others handicapped by restrictions on gasoline, tires, etc., routine calls will be minimized. However, our service to you will always be our first concern. If you will let us know when you need help or service, we will see that a capable man is available to you on short notice.

DELIVERIES: These take longer today. Please watch your stocks and order well in advance. Also, if possible, increase the size of individual orders.

CONTAINERS: Larger unit packages not only save money and floor space, but help relieve the container shortage. Please send back all returnable containers to us, properly coopered, as soon as empty. Note, too, that some types of containers are no longer available.

PRIORITIES: If you have, or can obtain, a preference rating applicable to the products we furnish, please extend it with your orders, and give us the proper symbols. We must have these so that we, in turn, can protect our requirements of chemicals and other raw materials, maintenance supplies, transportation facilities, etc. which are necessary to our operation, and hence to our ability to serve you.

Your full cooperation will help us to help *you*.

NATIONAL ADHESIVES

DIVISION OF

NATIONAL STARCH PRODUCTS INC.

820 Greenwich Street, New York

Plants and People

Purchase by Continental Can Co., Inc., of the entire capital stock of The Container Co. of Van Wert, Ohio, on December 30, 1942, has just been announced. The assets and business will be merged with those of Continental Can Co., Inc., and the present business continued at the Van Wert plant. There will be no change in management, personnel or policies. The Container Co. is engaged in the manufacture of fibre drums and barrels for the packing of chemicals and foodstuffs. The merger has been made to afford an opportunity for improvement in customer service, product research and distribution.

Donald J. Hardenbrook, recently appointed postwar planning manager of Union Bag & Paper Corp., has now been made assistant to the president of the company. Mr. Hardenbrook is a member of the Drafting Committee of the Postwar Planning Committee of the National Assn. of Manufacturers and of the Postwar Reconstruction Committee of the New York Board of Trade.

Thomas J. Beirne has joined Cans, Inc., Chicago, as assistant general manager after an association of 18 years with National Can Corp.

H. C. Illium, former advertising manager of Container Corp. of America, has recently joined Arvey Corp., Chicago, to handle a new department created to develop metal and other critical material replacements for government civilian requirements.

H. C. Illium

H. W. Hem, formerly chief engineer at the Toledo Scale Co., has joined The Howe Scale Co. as research director.

William Fitzhugh, deputy director of the containers division, WPB, has resigned his post to rejoin his company, the W. W. Fitzhugh Co., New York City, but will continue as chief consultant to the containers division. Mr. Fitzhugh will be succeeded by Roswell C. Mower, formerly assistant director.

Robert C. Beggs, formerly in advertising capacities with Republic Steel Corp., Wm. B. Remington Agency and National Petroleum News, has reopened the Cleveland office of Breskin Publishing Corp. to serve Modern Packaging Magazine and Packaging Catalog in that territory. Offices will be located at 1012 NBC Building, Cleveland, Ohio.

The following companies have been awarded the Army and Navy "E" according to recent announcements by Robert P. Patterson, Under-Secretary of War, and James V. Forrestal, Under-Secretary of the Navy: in the plastics field—Mack Molding Co., Wayne, N. J.; Guy P. Harvey & Son, Leominster, Mass.; and Franklin Plastic & Die Casting Co., Franklin, Pa.; The Dow Chemical Co., Midland, Mich., which received two Army-Navy "E" flags; and the St. Marys Manufacturing Co. of St. Marys, Ohio, a subsidiary of the Goodyear Tire & Rubber Co.

Pejepscot Paper Co., Inc., New York City, announces that it has ended the year 1942 running about 40 per cent on orders for paper needed directly in the war effort and has done this without undue hardship to the company's civilian customers. Papers for teletype, shell case lining, targets, for airplane parts and for fly leaves for drawings—in fact, 12 different kinds of paper have been manufactured for various war uses.

Kimberly-Clark Corp. has gone into Ordnance Work on an extensive scale and because of the time required for Ordnance purchasing, the company has found it necessary to have L. C. Stilp, general purchasing agent, devote his entire time to purchasing for the Ordnance Division. W. M. Wright will temporarily act as general purchasing agent for Kimberly-Clark, the company announces.

Carl G. Preis has been elected vice-president of the American Can Co. in charge of engineering. Mr. Preis, who was formerly chief engineer of the company, is also vice-president and general manager of the Amertorp Corp., a wholly-owned subsidiary corporation engaged in the manufacture of naval and aerial torpedoes.

Carl G. Preis

Born of shortages Celluloid, the first plastic which introduced America to the possibilities of synthetics, is marking its 70th official anniversary. No celebration is planned because Celluloid is hard at work in war production. Celluloid is one of the products of Celanese Celluloid Corp., the plastics division of Celanese Corp. of America.

OBITUARY

Louis Rosenfeld, chairman of the Board of Directors of National Container Corp., died November 29, 1942.

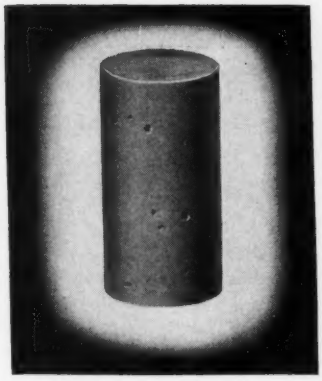
Miss Florence T. Helmer, manager of the advertising division of Sylvania Industrial Corp., died suddenly of a heart attack on Christmas day at her home in New York City, where she lived with her sister, Mrs. Mary E. H. McCormick.

Through her death, the packaging field lost one of its outstanding women executives. Miss Helmer might be considered one of the pioneers in the development of cellophane for packaging, having been instrumental in the improvement of methods for color printing on this material. Since the country's entrance in the war, she worked tirelessly on her company's war orders.

Miss Helmer, born at Belleville, Ont., was educated at the Sisters of Mercy Convent at Hogansburg, N. Y., and later was graduated from a business school in Syracuse, N. Y. Shortly after she began her business career, she was employed by the H. H. Babcock Carriage Co. at Watertown, N. Y., some years before this company converted its business of producing Victorias and Broughams to automobile manufacture. Later she was associated with the Newton Falls Paper Co. at Watertown, where she held the position of treasurer, but actually had charge of management and operation of the mills and forest stands owned by this company. After this company was sold to the McGraw-Hill Publishing Co., she managed the Norwich Paper Co. for Shuttleworth-Keiller Co. About 1925, she went to the Westfield River Paper Co. as sales manager with office in New York and there was responsible for the development of embossing and color printing on decorative glassine papers. It was this general knowledge of and interest in decorative wrapping materials that led her to Sylvania Industrial Corp. in 1932 where she had such an important part in the promotion of printed cellophane for packaging. Funeral services and burial were at Watertown on December 28.

CORK
FOR SAFETY IN SEALING

NO STRIP-TEASE! This is an actual view at cork-stripping time in Portugal, when the outer bark of the cork oak tree is removed for grading and processing into commercial products.



THE SAFE SEALING of Mundet Cork Closures is insured by our experience (since 1865) and our constant supervision of every stage of processing . . . from selection of the raw cork to our final okay of the finished cork closures.

Mundet Cork Corporation, Closure Division, 65 S. 11th St., Brooklyn, N. Y.

MUNDET

Closure Service

Mundet offices and representatives are conveniently located:

ATLANTA
339-41 Elizabeth Street, N.E.
BROOKLYN
65 South Eleventh Street
CHICAGO
135 West 63rd Street
CINCINNATI
427 West 4th Street
CLEVELAND
Britten Terminal, Inc.
DALLAS
505 Southland Annex
DENVER
The Stone-Hall Co.
DETROIT
335 West Jefferson Avenue
HOUSTON
Commerce and Palmer Streets
JACKSONVILLE, FLA.
Laney & Delcher Warehouse
KANSAS CITY, MO.
1428 St. Louis Avenue
LOS ANGELES
1850 North Main Street
LOUISVILLE
Kentucky Bottlers Supply Co.
MEMPHIS
Memphis Bonded Warehouse
NEW ORLEANS
432 North Peters Street
PHILADELPHIA
856 N. 48th Street
ST. LOUIS
2415 South Third Street
SAN FRANCISCO
440 Brannan Street

In Canada:
Mundet Cork & Insulation, Ltd.
35 Booth Avenue, Toronto

WOOD-TOP CORKS • TAPERED CORKS • STRAIGHT CORKS • CROWNS

For Your Information

Investigations made by the Food and Drug Administration show that there are many livestock and poultry remedies on the market with labelings that do not conform with provisions of the Federal Food, Drug, and Cosmetic Act. The labelings bear indefinite directions for use and contain no information about the purposes for which the preparations are to be used and no adequate warnings for use. Some of these preparations were found also to bear on the labels long lists of ingredients, of which many are not active drugs or are not present in therapeutically significant amounts. The Food, Drug, and Cosmetic Act defines such products as misbranded unless their labelings bear adequate directions for use, adequate warnings and the common name of each active ingredient, together with the quantity or proportion of certain specifically mentioned drugs. Directions for the use of a drug, to be adequate, as required by the act, should furnish not only information as to the dosage, frequency and duration of administration of the drug, but also information concerning the purpose for which the drug is to be used.

Technical Assn. of the Pulp and Paper Industry—TAPPI—holds its annual meeting at the Commodore Hotel, New York City, February 15 to 18. The Tuesday, February 16, session is a Packaging and Container meeting at which the following topics are scheduled: Packaging Requirements for Dehydrated Vegetables, Fibre Cans and Substitute Packages in Wartime, Improvement in Weatherproof Containers, Rule 41 and the Flat Crush Test and Relation Between Test on Corrugated Board (Vertical Compression and Bending) and the Top to Bottom Olsen Test on Boxes from Such Boards.

One of America's favorite desserts—rice pudding— is now being supplied in dehydrated form to army troops overseas, according to the War Department. In its processed form the pudding has all the advantages of the homemade variety, even to the raisins. The pudding was developed by the Quartermaster Corps to provide overseas troops with a dessert to go with basic food items which already are being supplied in concentrated form in large quantities.

A new booklet, "Menasha Wartime Packaging," just issued by The Menasha Products Co., Menasha, Wis., summarizes the company's peacetime production facilities and resources and points out how this background is now being adapted to wartime packaging production.

As a wartime conservation measure, The Textile Color Card Assn. is showing only three colors in its 1943 spring hosiery card, as compared with four for the previous spring season.

The nation's demands upon the grocery industry will be greater in 1943 than at any previous time, according to a release by the Chicago Assn. of Manufacturers' Representatives, an organization of executives in charge of mid-west sales and distribution for most nationally prominent grocery items. Many of the companies represented, it was pointed out, produced 75 per cent for civilian, 25 per cent for war during 1941; 40 per cent civilian, 60 per cent war during 1942; with further production increase for war scheduled for 1943.

Limitation Order No. L-227 will curtail pen and mechanical pencil production during 1943 more than 50 per cent of the number of units produced in the base year 1941. Since manufacturers are curtailed on a unit basis, officials of the W. A. Sheaffer Pen Co. report that their territorial representatives will allot pen-unit quotas to dealers by quarters during the coming year.

According to the Color Research Laboratory of the Eagle Printing Ink Co., Division of General Printing Ink Corp., color in factories and offices is accomplishing much to speed up work and to help thwart a rather tragic increase in accidents brought about by the demand for speed and by the influx of new and relatively inexperienced labor. Red as a danger signal is giving way to a more prevalent use of yellow, yellow-green and orange—all of which have much higher visibility and noticeability. Machines are being painted in lighter tones, both to reduce shadows and reflect more light and to build up better contrast with materials handled. Brighter colors on floors increase illumination efficiency and throw light on the underside of equipment.

"The Freezing Preservation of Foods," by Donald K. Tressler, Ph.D., and Clifford F. Evers, B.S., published by the Avi Publishing Co., Inc., New York, treats of not only the freezing preservation of fruits, fruit juices and vegetables, but also includes a consideration of the freezing of meat, poultry, fish, shellfish and dairy products. Chapter 7 is a rather comprehensive treatment of Packaging Materials and Problems with a discussion of types of containers, liners, wrappers, product wraps, shipping containers, filling and packaging machinery, water-proofness and moisture-vapor-proofness. At the end of the chapter is an extensive bibliography.

Why and how to conserve tires and other materials containing rubber is the theme of a new sound motion picture, "Drive for Victory," which is being distributed by the Goodyear Tire & Rubber Co. It is tied in closely with all of the current wartime problems as they affect the average American home, giving the American car owner some concrete suggestions upon which to base care of his tire equipment.

The "Southwick" tester for determining the moisture-vapor transmission rate of protective materials has already been delivered to the New York office, 521 Fifth Ave., of the Folding Paper Box Assn. of America, and installation of the equipment is being completed. Tests on this equipment will be under way very soon, according to the association. People in the packaging field who have any materials which they wish tested are invited by the association to submit samples to the New York office.

With the aid of the War Production Fund to Conserve Manpower, which means the voluntary aid of business and industry, the National Safety Council has made a substantial beginning toward reducing the accidental deaths and injuries hamstringing the American war effort. Latest and biggest counter-move in what is shaping up as a national safety movement is a grass-roots drive on accidents planned for 14 major war production centers. Local safety leadership will be enlisted among business men, industrialists, union heads and the municipal authorities in each center visited by the Council. Each city will be offered the full aid of the National Safety Council in curbing its accident toll and the latter will serve as consultant and over-all coordinator.

Published by The Hinde & Dauch Paper Co., Sandusky, Ohio, "How to Pack War Materials in Corrugated Boxes" is the sixth in the series of Little Packaging Library booklets dealing with all phases of corrugated packaging. Copies of the booklet will be mailed free to anyone who writes their office requesting a copy.


Tomorrow belongs to him
THIS is our war . . . let's strive for an early victory . . . . a lasting peace. Tomorrow belongs to our children. They must be free. To that end Heekin's modern, swift, precision high speed lithographed presses rush day and night producing lithographed packages used in defense and for war. If you are producing such a product, we can serve you. If you are not, our research department and other facilities are at your service for the future. In the meantime—Look Ahead. THE HEEKIN CAN CO., CINCINNATI, OHIO.
HEEKIN CANS
Lithographed
WITH HARMONIZED COLORS
BUSH'S
TOMATO JUICE
Sea Foam
BATH CRYSTALS

How far can bulk go?

(*Continued from page 43*) very wrinkled condition and we immediately restored the board.

"We have thought and even tried packing our shirts in bulk; that is, packing them directly into the carton in two, three and four dozen lots. The result was most unsatisfactory, however, and with the further possible loss of the shirt board, I rather imagine the shirts would be simply a tangled knot of fabric by the time they reached the consumer.

"Our present packing is in units of three or four shirts to the box depending upon the style. The present habits of the boxing department would certainly be materially changed if these units were made much larger. This is particularly true of the patterned shirts, which, in the very small and very large sizes, are ordered in small quantities.

"Should bulk packaging be necessary, I imagine we will strive to maintain our units of three or four by wrapping these shirts in paper and then packing the bundles into the carton. We would certainly rather do this than to pack the raw shirts into the carton unwrapped. I imagine, however, that the problem experienced by the dealer would be an even greater one, since his entire stock system is set up to employ the common size shirt boxes used by most manufacturers."

Among the most damageable items in a department store are women's gloves—white ones of all kinds, and particularly white or delicate colored leathers. In fact, they are so perishable that in some stores, a wash basin is installed behind the glove counter where sales girls must wash their hands before trying white gloves on a customer.

Gloves can be and are managed behind the glove counter without boxes. They are stored in conveniently constructed drawer bins behind the counter. However, in reserve stock, they are kept in the boxes in which they arrive from the manufacturer, a specified number of pairs to a box. There is no other provision for protecting them from dust on stock room shelves. The boxes also provide a convenient method of stock taking and transfer from reserve to selling floor. Gloves might be handled without boxes, but it would upset the glove department's routine a great deal.

Go to the reserve shelves of the linen department stockroom. There you will see neat rows of boxes containing sheets and pillow cases. They could be stored there for a year or more in exactly the same condition as the merchandise arrived. You will also see, today, packages of sheets wrapped only in paper. This paper, of course, protects the sheets from dirt, but it is questionable whether the paper used for wrapping by the manufacturer contains less virgin pulp than the boxes for sheets. Boxboard contains from 85 to 95 per cent reclaimed waste paper while kraft paper contains a large percentage of new pulp. Sheets unwrapped on a reserve stock shelf would be wasteful in store management. When a customer buys a sheet, she wants it clean—to be used without laundering. If it is soiled, she expects a markdown.

On this question of markdowns, it might be argued, "All right, fine. A markdown means a saving to the customer anyway." But if you figure the cost of laundry or cleaning which the consumer must pay to restore the merchandise to a usable condition, this is no real saving in the long run to either consumer or retail dealer.

One could go from department to department pointing out instances of what appear to be almost indispensable packaging in stores. Store operators cannot really envision a condition in which hundreds of hard-to-handle items might come in bulk. Manufacturers' boxes are as much a part of the modern department store picture as cream is in coffee. They are so much a part of the whole distribution set-up of modern merchandising that the elimination of many of them would mean a complete re-vamping of their non-selling departments involving additional labor and new equipment that would eventually be paid for by the consumer.

Manufacturers and department store managers are more than willing to make sacrifices if it means getting the war over more quickly. They do feel, however, that if further curtailment of boxboard and wrapping materials implies bulk packaging, then the rulings for such curtailment should be studied carefully to make the savings where they will do the most good. The value of saving a small amount of virgin pulp should be weighed very carefully against the additional labor and damage to merchandise that certain blanket orders might involve. It's a problem that must be worked out by all concerned—government, retailer, manufacturer and boxmaker.

Plans for technical section

(*Continued from page 77*) at the same time judge and compare soundly the performance of materials or packages. This section will be compiled in cooperation with other scientific groups or societies who are primarily concerned with the promulgation and development of testing standards. This should not be implied to mean that individuals will be excluded from submitting soundly proved and effective methods which they have devised. This section will draw from all sources any methods or inventions which appear to be usable or convertible by the packaging industry. It is also planned to include a section of questions and answers as a personalized service to take care of pressing individual problems.

I want to be the first to admit that my packaging experience is not universal or that I am not a jack-of-all trades. This is fair warning that I expect every reader of Modern Packaging who is interested in the results and purposes of this work to consider himself as a working member of the staff. People of the packaging industry, readers of Modern Packaging or not, who can derive benefit or contribute to the progress of this section must help in keeping it vigorous and alive. With this cooperation and the benefit of your experiences, I feel that this department can make a heavy contribution to progress and the development of a science of packaging.

Are women—pastels

(*Continued from page 57*) Personalities may reveal several significant things. The box for the three cologne bottles has been done inexpensively in one color. The entire package is of machine construction. There are no fancy trimmings and the box itself is not of unusual shape. Good design and color sense have made a successful item. In repackaging its old product—for the three colognes were an old product with de Raymond—the company finds that the new package is outselling the former round trio set at the rate of six to one. It is a war package, they state, which uses less labor, color and omits fancy frills and it is getting a fine public response.

Credit: Deviltry cologne and toilet water, and Personalities boxes made by Shoup-Owens, Inc. Deviltry perfume boxes made by Karl Voss Corp. Bottles by Carr-Lowrey Glass Co.

The foresight and initiative displayed by Crown in being the first to develop a highly successful electrolytic tin-plating process suitable for closures, is now playing an important part in helping conserve America's rapidly dwindling tin supply.

By means of Crown's exclusive, electrolytic process, black steel plate is given a smooth, satiny tin coating —using considerably less tin than the amount formerly required by the old hot-dip method.

A large and steadily increasing volume of these Crown "Cemcoated" Closures have already found their way out into the regular channels of trade—where they have proved supremely efficient and completely satisfactory.

This is but one of the many ways in which Crown's vast peacetime facilities have been used to meet the challenging problems and sudden emergencies of a restricted wartime economy.

Because Crown Closures use less tin, those using Crown Closures are of course aiding our government in the conservation of vital war materials.

CROWN CORK AND SEAL CO., BALTIMORE, MD.

World's Largest Makers of Closures for Glass Containers

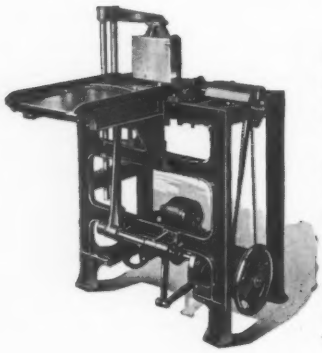
CROWN CLOSURES

CROWN'S WARTIME POLICY: *To supply closures, containers and services for packaging foods, beverages, chemicals, etc., needed by civilians and the armed forces. To build an ever-increasing volume of vitally needed weapons of war for our fighting men.*

How Much Production

Can You Expect From Your Machines

With the proper care and if your machines are kept clean, well oiled and in first class condition, you need not worry about your production since these machines are sturdily built for many years of satisfactory performance at maximum speeds.



This PETERS JUNIOR CARTON FORMING AND LINING MACHINE sets up 30–40 "Peters Style" cartons per minute, requiring one operator. After the cartons are set up, they drop onto the conveyor belt where they are carried to be filled. Can be made adjustable to set up several carton sizes.

This PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE automatically closes 30–40 "Peters Style" cartons per minute, requiring no operator. After being filled, the cartons enter this machine on conveyor belt as open, filled cartons and leave machine completely closed, ready to be packed for shipment or wrapped. Can also be made adjustable.

With all of its facilities devoted to the manufacture of war equipment, Peters is contributing directly to the war effort.

PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVENUE, CHICAGO, ILL.

Language for color

(*Continued from page 46*) When, in the new war standard, American Standards Assn. specified that for the popular or the average person's identification of color, material standards may be used and, at the same time, approved the 1929 edition of the Munsell Book of Color for this purpose, it was done because that system was the only system of material standards that had been calibrated in terms of, first, spectrophotometric measurement and, second, in terms of the I. C. I. system of color mixture which has been described above. Munsell is the one system whose samples of colors had all been located at some particular point in that I. C. I. diagram and whose precise qualities were known. Therefore, there was readily available a whole system of color that could be duplicated at any time even though every copy of the 1929 Munsell Book of Color together with its more than 400 samples disappeared into the void.

The originator of the system was Albert H. Munsell, artist and art teacher, who was born in Boston, Mass., in 1858. By 1901 he had developed the Munsell value scale and a daylight photometer on which to measure it. As an artist, he first painted a scale to suit him; when he measured it, he found that his scale seemed best when made so that the light reflectance of each value chip was the square of the number on his value scale—0 black to 10 white. The Munsell hue circuit has 10 major hues, with 100-hue notation possible. For instance, the major hue yellow has ten possible variations. Munsell notation consists of the symbols for hue, value and chroma or symbols for the color name, the amount of light that is reflected from a color (dark value blue, middle value red, etc.) and the amount of saturation—the strength of a particular color.

By use of the so-called Munsell notation one manufacturer in the East may wire the company that makes his labels somewhere on the West Coast and say, "Change background for label to 5.5R 4/14" and be sure that he is getting a particular red and no other. American Standards Assn. suggests that in applying the new standard to fill an order in which the Munsell notation is given reference be made by the supplier to the 1929 edition of the Munsell Color Book. He will then simply match the visual sample indicated. Among the companies already using the Munsell system of notation are the Glidden Co., which formulated a series of automobile lacquer colors; Lever Bros., who have developed standards for Lifebuoy and Swan soaps, using both the Munsell Notation and the spectrophotometer. A record is also kept of the standard Swan soap wrapper by checking the ink before it is shipped by running a color curve on the match. Interchemical Corp. finds the use of the Munsell System and the spectrophotometer of great assistance in the various divisions. The spectrophotometer is used for keeping a check on the production of printed cartons for Pall Mall cigarettes, Colgate Shave Cream and RCA radio tubes, among other things. The All-Color Co., Inc., has produced a line of 362 printing ink surfaced papers, carrying a Munsell notation on each sheet.

In some cases a color name rather than a number is needed to identify a color. This can be done by using the Inter-Society Color Council and the National Bureau of Standards color-name system, which is based on the Munsell system. This is a list of 300 and more common color names, such as vivid red, dull red, etc. Although this system is not precise enough for purchase specifications, it is adequate for ordinary conversation. It is being used for the description of drugs and chemicals and is being introduced into the standard reference

MANUFACTURERS JOBBERS and SHIPPERS

ARE INVITED TO TAKE ADVANTAGE OF THIS SUCCESSFUL 25-YEAR OLD EXPERIENCE

BORN in one war year (1917) Mid-States Gummed Paper Company meets the problems of World War II with the invaluable experiences gathered during the intervening 25 years of working with special types of adhesives, coating, paper, cloth and other materials, and in combining them.

Draw on this experience as freely as you will. Today as in 1917, we enjoy the same management, hold to the same principles, and aim for our same objective—"To Serve Better".

Mid-States Laboratories are here to serve YOU. Consultation is invited.

MID-STATES GUMMED PAPER CO.
2515 SO. DAMEN AVENUE • CHICAGO

Twenty-five years ago we were asked to interrupt our manufacturing production and to do our part in helping to win a war.

The call has come to us again and our entire productive capacity has been turned to defense work designed to stop the aggressor.

Replacement parts for equipment manufactured by us, now operating in our customers' plants, will be served promptly, provided the orders for these parts carry proper priorities and meet with the approval of the War Production Board.

Orders for new machines of our standard type will be accepted only if accompanied by proper priorities until the end of the present emergency.

HUDSON-SHARP
MACHINE CO • GREEN BAY • WIS

★ ★

MADE TO ORDER FOR MERCHANDISING

LUSTEROID VIALS AND TUBES

Product protection is only one of the important functions of LUSTEROID vials and tubes.

You also get smartness, product visibility, distinctive color appeal and attractive display—all made to order for merchandising that sells.

And LUSTEROID combines all these practical advantages with economies you can't afford to overlook in planning for the future. Light in weight, without sacrifice of strength and rigidity. No protective partitioning or special packing required. No labels to affix as the design and sales message are reproduced in color as an integral part of the container.

LUSTEROID vials and tubes come transparent or opaque in all colors. Cork, slip-on or screw-cap closures. Standard diameters from 1/4" to 1 1/4" and lengths up to 6".

Write for complete facts today.

Lusteroid Container co., inc.

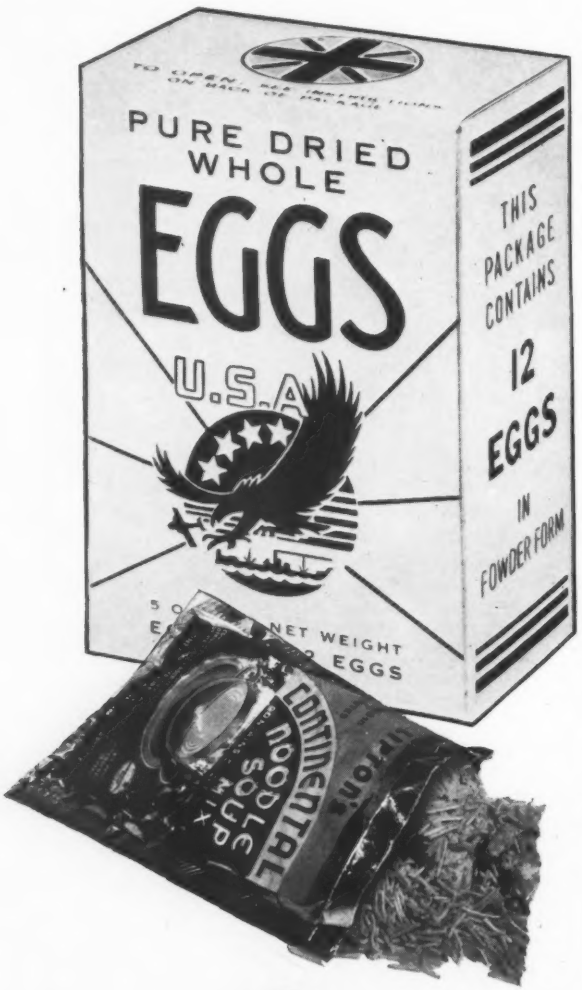
FORMERLY LUSTEROID DIVISION OF SILLCOCKS-MILLER COMPANY

OFFICE AND FACTORY
10 PARKER AVENUE, WEST
MAPLEWOOD, N. J.

MAILING ADDRESS:
SOUTH ORANGE, N. J.

Need help in packaging a dehydrated food?

Ask S & S! Many of the finest packages developed for all types of dehydrated foods have grown out of the close collaboration of Stokes & Smith with some of the Country's largest packers. And, if you're entering this field, you'll find that we have done much of your basic work for you... can show you many a short-cut to your goal of *speedy, economical packaging, in packages that really protect!* Consult us freely!



STOKES & SMITH Co
PACKAGING MACHINERY — PAPER BOX MACHINERY
FRANKFORD, PHILADELPHIA, U. S. A.

books for pharmacists. It is also being used by the U. S. Department of Agriculture for the description of soils and by the National Bureau of Standards for certain kinds of building stones.

The War Standard for Color as approved by American Standards Assn. is being used by the National Bureau of Standards and the Department of Agriculture in their regular testing work. It is the first time that a color code, which may be understood and used by anyone, has been set up. It may become as much a universally understood language and as scientifically precise as the determination of time or temperature. Its acceptance does not mean that the shocking violets, the African browns, the courage reds will go by the board. The writer of advertising copy and the merchandiser may call the colors whatever he pleases. However, in manufacturing, the supplier will be able to specify, produce and reproduce colors precisely to make army khaki cloth, navy blue middies, papers, packages, or whatever it may be, to match exactly those made yesterday or even years ago.

Acknowledgment is made for aid in the compilation of data for this article to Dr. Arthur C. Hardy of the Massachusetts Institute of Technology; J. W. McNair and Katherine Snyder of American Standards Assn.; and George Welp and Walter Granville of the Interchemical Corp.

New method for testing

(Continued from page 84) apparatus, exclusive of the source of operating current and the supply of gas, consists of four units: 1. The waxing plates, used to prepare the edge of the circular sample with a mixture of vaseline and beeswax, to secure a gas-tight seal when the sample is clamped in the test cell. 2. The test cell, consisting of a hinged pair of castings, between which the sample is clamped by means of a central screw. The lower casting is furnished with inlet and outlet fittings for the test gas, and the upper casting with a thermal conductivity gas analysis cell and a four-conductor cable for connection to the control box. 3 The control box, which provides adjustment for the bridge current and electrical adjustment of the galvanometer zero. 4. The galvanometer is a "Spot" galvanometer with self-contained lamp and a scale which is directly calibrated in terms of fabric permeability in liters per square meter per 24 hours for the particular gas to be used.

After the sample has been properly prepared and securely clamped in the test cell, the gas is admitted to the lower chamber and at once begins to diffuse through the sample into the upper chamber, where the admixture of the gas with the air already present produces an unbalance in the Wheatstone bridge contained in the analysis cell. By means of the Control Box, the galvanometer is kept balanced on zero for a certain length of time, and is then allowed to deflect for a fixed period of time, at the end of which the permeability of the sample may be read directly.

Typical applications are measurements of the diffusion of gases through proofed fabrics and also through coverings which utilize light weight materials or thin membranes. The instrument has proved an excellent aid to processors who must distinguish between true molecular diffusion and pinhole leakage. It is said to be possible to discriminate between the two types of leakage in instances where the permeability to hydrogen was as low as 6 or 7 liters per square meter per 24 hours.

Credit: Fabric Permeameter by Cambridge Instrument Co.

Set Up for Bottom Stitching

BLISS TOP and BOTTOM STITCHER

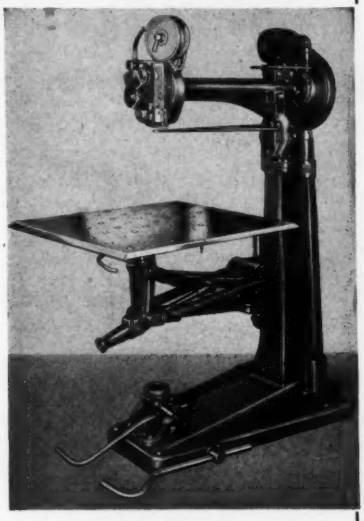
Containers with both tops and bottoms wire stitched are now specified for packing numerous products.

This combination BLISS TOP and BOTTOM STITCHER is recommended for plants whose production does not warrant installation of separate Bottom and Top Stitchers. For assembling cases by bottom stitching, the blade anvil is dropped down against the pedestal and the table is swung to one side as illustrated at left; the post is placed in a socket on the base and locked in position.

After the desired number of containers has been bottom stitched, the post is removed and table and blade anvil swung into position as illustrated at right, for top stitching the filled containers. Less than one minute is required to make the change.

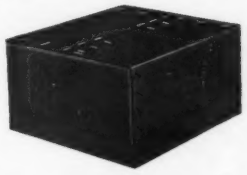
The work table is fitted with ball bearings on which the box may be easily moved in any direction. The table is counter-balanced and is quickly and easily adjustable up or down by hand for boxes of varying heights.

Built in two sizes with 15″ and 25″ throats, and 26″ x 30″ work table. Handles boxes up to 25″ in depth. The standard Heavy Duty Stitcher Head is used. Motor 1/4 HP.



Set Up for Top Stitching

Wire stitching both top and bottom provides a uniformly secure closure and gives added strength and rigidity to the case.

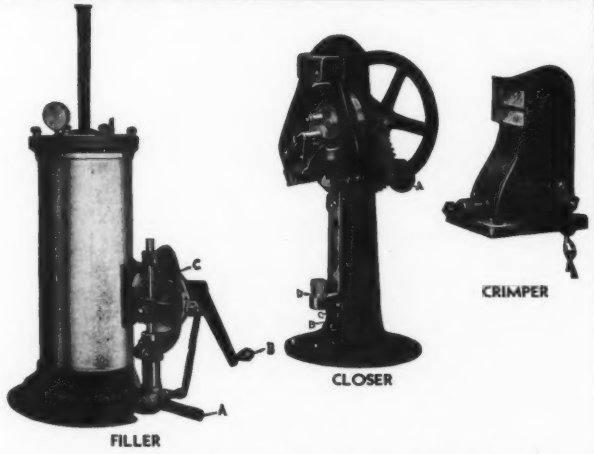


Write for further information

DEXTER FOLDER COMPANY

330 West 42nd Street — New York, N. Y.

Chicago • Boston • Philadelphia • Cincinnati



COLTON Hand Operated Machines

Will seal tubes with Colton Clipless Closure or for applying clips
Will be pleased to recommend machines suited for your requirements
write

ARTHUR COLTON CO.

2602 EAST JEFFERSON AVE., DETROIT, MICH.

ADHESIVE PROBLEMS?

YOU DON'T HAVE TO EXPERIMENT WE'VE DONE THAT

Among the many *"THISTLE BRAND"* adhesive formulas we have developed for specialized purposes are waterproof glues for sealing cases destined for the Armed Forces or for Lend-Lease consumption.

ARVEY CORPORATION

310 Communipaw Avenue, Jersey City, N. J.

PHILADELPHIA — ROCHESTER

Model RA put it there. In 1 1/5 seconds! And on 2999 other RCA Radiotron bases within the hour!

See how the clear, sharp, durable lines match the clarity of hand engraving. Lasting legibility from the RCA monogram to the end of the type-of-tube identification.

Years from now, because of the long, satisfying service it gave him, some consumer will want to replace this tube. He'll wipe the grease and dust away and this whole impression will re-appear as clean-cut and easy to read as it is today.

Markem markings assure repeat business from satisfied users. Does your future enjoy this protection?

Year after year, Markem machines apply these identifications to RCA Radiotrons — to millions of them. Surely, if more efficient, more dependable, more economical marking methods or machines were available, RCA's able engineers and production men would have adopted them long ago.

Why not ask us about marking methods for your products? Whatever the size, shape or substance, we have a method and the machine to mark it quickly, legibly, lastingly and economically.

Marking of parts for war-work production is especially important. It speeds assemblies. Stops mistakes.

Catalog D2 on request.

MARKEM Variable Designation Marking Machines

BOXES, LABELS, TAGS, ENVELOPES. Easy-to-operate Markem Machines print them with trademark and specifications imprints, quickly, easily and inexpensively. Print boxes packed or empty. Labels, loose or on the box.

TICKETS, TAGS, LABELS from **CONTINUOUS ROLLS**, one or two colors; cut-off or perforated; round or square corners; gummed or ungummed stock. Quantity may be automatically controlled. Stock may be paper, cloth, fibre, parchment or plastic.

COLLARS, SOCKS, STOCKINGS, SHIRTS, SHOE LININGS and all that myriad of large, hard-to-handle pieces of textiles, leathers and synthetics are marked in necessary detail and trademarked — all with special process Markem inks which assure legibility and durability of impression.

GLASS, METAL, WOOD, PLASTICS, PAINTED SURFACES, RUBBER SHEETS — even **ABRASIVES!** There are Markem machines to trademark, decorate, size-mark, part-mark and do all other stampings on these products in the most approved Markem manner.

Tell us today, what you want to mark and how you want to mark it.

MARKEM MACHINE COMPANY
KEENE, N.H.
Builders of Industrial Ink Marking Equipment

You Made 'em - Now MARKEM!

Paper lug cap

(*Continued from page 53*) its substitution was met with no less equanimity. A folding box was found which accepts the regular pocket-size "cartridge" of tobacco and this presented the task of quick and effective set-up. This is done automatically and the opened carton is now fed through on the same machine that formerly fed the pocket tins of Union Leader and Briggs.

As the carton, with its top flap open, slides along, a hopper feeds the "cartridges" to it at the right spot, the carton is up-ended and closed and then moves along the same routine as its predecessor in metal. There has been no need for Lorillard—as yet, at any rate—to change the paper type cartridge which is filled and handled as it was in the first place.

Here again, public acceptance is taking the new paper container in its stride. Both the Briggs and the Union Leader cartons appear on the shelves in the familiar brown or red inks and are carried away with little or no comment.

With buff-colored ink replacing the gold-bronze inks used in printing Old Gold Cigarette packages, and paper replacing the foil wrapper, Lorillard is keeping right in step in the military procession. Both gold bronze and aluminum bronze inks have been ousted for the duration and among the firms affected has been the P. Lorillard Co.

The laminated inner wrapper, replacing the foil, according to officials of the company, is satisfactory and compares well with the former type of packaging.

Credit: Paper closure, F. N. Burt Co. Glass containers, Owens-Illinois Glass Co.

Remember us

(*Continued from page 61*) gladly send you a tried New England recipe so, when your store is unable to supply you, you may continue to enjoy true New England baked beans at home."

Naturally, each of these advertisements displays our trade mark in impressive dimensions. There can be no confusion as to who is making this offer and our trade mark will continue to maintain and build customer good will.

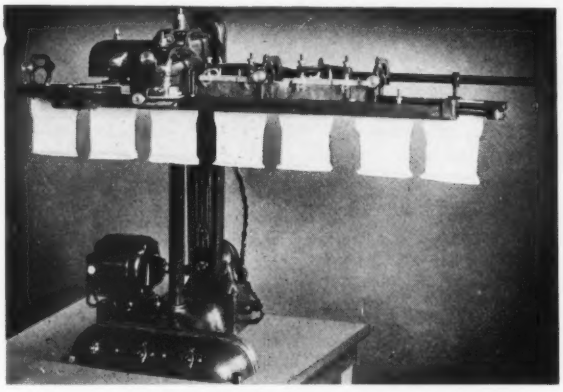
But our activities in behalf of our name and reputation maintenance do not stop there. In trade periodicals, we point out the wisdom of this procedure to dealers, jobbers and brokers. We tell the grocers, for instance, that our current national copy is sending women into stores to buy dried beans, molasses, pork, spices, etc., necessary ingredients for home bean baking, and that this is helping replace store volume lost through present container shortages.

Is our advertising accomplishing its purpose? Anyone opening our mail and reading the deluge of letters we are getting from both consumers and trade indicating their approval of what we are doing would be convinced that it is. These letters disclose that our advertising is assisting us both to hold old friends and to win many new ones, friends eager to be our patrons when again we are able to supply them.

In short, even without the great benefit of our well-known B & M containers working in our behalf, we feel certain we have hit upon a formula for name and reputation maintenance upon which we can profit and profit well in the happy peace decades to come. In the meantime, we regard what we are doing as just as essential to the future security of our business as the insurance we carry upon our factories. To lose our plants and equipment most certainly would be a serious loss. But to lose our good name would be irreparable

AMSCO HI-SPEED SEALERS HAVE ENLISTED TO *Help You* IN *Winning The War*

in the packaging of | Dehydrated Vegetables and Soups, Ammunition • Rations C, J, K and components • Sulfanilimide • Surgical Dressings • Dried & Frozen Foods



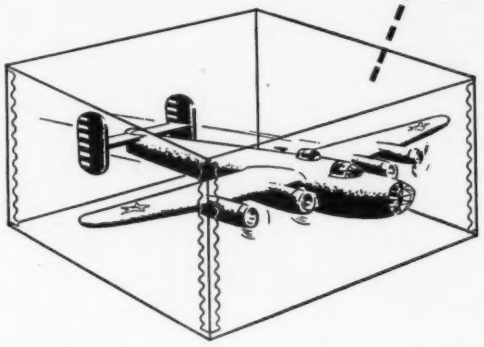
If you have problems in packaging for the war effort, consult us.
Our efforts are devoted entirely to help Win the War!

AMSCO PACKAGING MACHINERY, INC.
31-31 Forty-Eighth Ave., Long Island City, N. Y.

AVERY ADHESIVES. DEPT. MP 2, 451 E. 3RD ST., LOS ANGELES, CALIF.

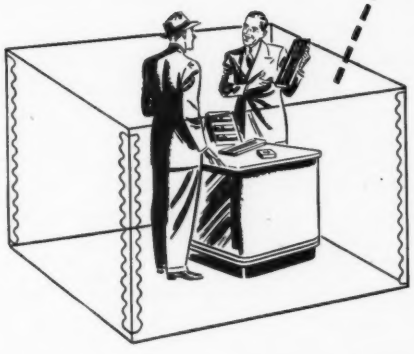
METAL EDGE PACKAGING

FOR TODAY'S WAR NEEDS!



METAL EDGE PACKAGING

FOR POST-WAR INDUSTRY!



Metal Edge boxes are carrying spare and replacement parts to fighting fronts where tough and durable containers are essential . . . When you're ready to consider your post-war requirements, Metal Edge Package-Engineering Service will be available.

METAL EDGE

NATIONAL METAL EDGE BOX CO.
334 No. 12th Street Philadelphia, Pa.
MODERN PACKAGING METHOD...
STRONGEST PAPER BOX... Since 1887

The makers of
Johnson's Wax announce...

...for shipping and packaging cartons of paper and fibreboard

Many manufacturers now package in paper containers instead of metal — fibre instead of wood.

To help them, S. C. Johnson & Son announce new, protective, water-resistant CARTON-SEALING WAXES ... four of them ... each specially developed for use with paper and fibre cartons.

These CARTON-SEALING WAXES REPRESENT A NEW METHOD OF PACKAGING! No superficial coating, but a substantial blanket, a REAL impregnation and sealing with wax that guards against wear and resists water. Johnson's Water-Resistant Carton-Sealing Waxes *completely* cover containers and cartons. The penetration and adhesion is deep and lasting.

Who uses them?

Ordnance plants, to pack small arms ammunition...

Food packaging plants, for sealing "Field Ration Kits" for overseas shipments...

Manufacturers of metal parts, to give a lasting, wear-resistant seal to cartons and crepe paper pads used for packing...

Meat packers, shell container manufacturers, dehydrated food manufacturers (dried egg cartons, etc.), surgical instrument makers, etc.

A word about physical characteristics. Johnson's Carton-Sealing Waxes are available in a range of melting points. Flexibility is ideal. Adhesion and penetration are excellent.

Write for complete details.

S. C. JOHNSON & SON, Inc.

Dept. MP-23, Industrial Wax Division, Racine, Wis.

Buy United States War Savings Bonds and Stamps

Self-service meats

(*Continued from page 50*) methods throughout all industry. Such methods do not always lessen the value of the skilled workman. In many ways it increases his value by enabling one skilled man to accomplish more with the help of the improved method.

On the other hand, many an overworked meat man today will welcome a self-service "lift" during rush hours when the markets are short-handed.

Since cellophane is not yet restricted for food products where protection is essential, the use of cellophane for this purpose is allowable for the present. If such use of cellophane is useful in view of the labor it will save during these times, such use of cellophane can certainly be rationalized. If cellophane is unavailable, other packaging films could be used. The bulk packaged meat could be dropped right into the shopper's bag without further wrapping—thus saving the usual wrapping paper.

Self-service in the meat department followed successful selling in this manner in dairy departments. Here, of course, the problem for the most part was much simpler. Butter, milk, cream and other perishables are for the most part already packaged when they come into a store. The swing to self-service in the dairy department is even more important right now, because of the decrease in deliveries of such products through other channels.

Soap machine

(*Continued from page 79*) appearance, with startling satisfactory results. Chances are that the new package is here not only for the duration, but permanently.

Streamlining, also, took from Rockwood's line the cellophane bag containing its line of wafers, leaving behind the wafers in a new package whose sturdy attractiveness likewise bids for permanence. This is the package with the double row of square-minted chocolate wafers which are now presented to the public in a cardboard box with a novel closure. The top is hand folded and hand tucked and sealed, and it takes abuse in satisfactory fashion, plant authorities said.

Early in December the WPB ordered to be discarded for the duration a long line of the family of the original chocolate soldier. Gone, then, were the familiar chocolate Santa Clauses, his reindeer, the Easter Bunnies, roosters, hearts, eggs, the Rockwood Teddy Bear, its Scottie and a couple of hundred kindred items.

Also in its streamlining program, Rockwood dropped its line of chocolate bars down to three essential five-cent numbers and these are now being wrapped in paper rather than the familiar aluminum foil which, according to Rockwood, kept goods fresher and more attractive than the present wrap of paper.

The reducing exercises shucked off, Rockwood reports, its chocolate liquor line from 17 to 12 items; sweet coatings (commercial chocolate for candy manufacturers) from 103 to 72; cocoa powders, from 180 to 103; bulk specialties, 95 to a present 68; solid chocolate bars from 15 to 5; packed cocoa, 142 to 68; packaged chocolates and other confectionery and novelty items, from 299 to 39. By keeping what it and the trade consider the best of the crop, there is hope of specialization and a reduction of competitive practices.

Credit: Wrapping machines by Package Machinery Co.

A non-critical PAPER BAG with a SEALTITE Closure

Makes a SIFT-PROOF, ATTRACTIVE PACKAGE!

The transition from tin or glass containers to paper bags is easy and the savings are substantial when the SEALTITE Bag Sealer is used. SEALTITE handles any standard 2 to 10 lb. gusseted paper bag at speeds from 15 to 50 per minute.

Fully automatic, SEALTITE shows savings as high as $300.00 per month per machine over previous methods of packaging. SEALTITE packages have square flat tops, and may be stacked like cartons.

In order to do our part in the war effort, the Consolidated plant has been greatly enlarged. When this crisis is over, we hope to utilize the facilities now devoted to war production to building new types of packaging equipment, in addition to the standard line of Consolidated packaging machinery.

Therefore, we welcome suggestions from users of packaging machinery as to new types of equipment which would help to solve their post-war packaging problems. Such an interchange of ideas should benefit all users of packaging equipment by enabling us to plan NOW on ways to meet post-war needs.

CONSOLIDATED PACKAGING MACHINERY CORP. 1400 West Ave., Buffalo, N. Y.

In These Trying Days of "SHORTAGE of HANDS"

The Beck Sheeter

will release hands for other work, because thru its great simplicity, it needs very little of the operators' attention, once it is set. Especially when equipped with **ELECTRIC EYE CONTROL** are you freed from human element in your sheeting work. Amazing degrees of accuracy in "spot sheeting" work, plus profitably increased outputs. The need for doing your own sheeting is probably more acute now than ever before in your business history, and this because of present conditions.

CHARLES BECK MACHINE CO.

13th & Callowhill Streets Philadelphia, Pa.

EXTRA Union Paste News EXTRA

LOCAL ADHESIVES MAKE GOOD

As the war has cut our country from foreign stocks of raw materials, we in the adhesive business have had to develop new substitute glues and pastes to keep our customers supplied.

Our long research experience at Union Paste has stood us in good stead in this difficult situation. With a background of more than 700 successful adhesive formulas, our development men have achieved a number of new combinations *using only available materials* that stick as well as the old—even better. New waterproof adhesives for various government packages and sealing operations are now a reality. Tell us your problem, we'll send samples.

Established 1866

Union Paste Company

1605 HYDE PARK AVENUE • HYDE PARK, MASS.

IF you are "falling down" on those important orders . . . better specify Mac Sim Bar quality boxboard. Mac Sim Bar gives you experience, service and above all, a fair price.

WE DO NOT MAKE BOXES, CARTONS OR CONTAINERS BUT WE DO MAKE QUALITY BOXBOARD

MAC SIM BAR Paper Company

OTSEGO, MICHIGAN
PHONE KALAMAZOO 5500

CHICAGO, 228 N. LaSALLE
PHONE CENTRAL 1798

New tester for bottle

(*Continued from page 88*) 4-day test.

Another application of this tester would be in the field of physical data on the bottle caps themselves. If strong springs are used, this device can be employed to test the breaking strength of caps made of plastic, wood, etc. This is accomplished by screwing the cap on the tester, then raising the piston against it by means of the knurled wheel and noting the indicator reading when the cap breaks. Or, if desired, the cap may be screwed down on the tester until the cap breaks and the reading at that point noted.

4-Day Test—No. 650 Acopac-Faced Unwaxed Panaseal Liner

Tester Number		0	1	2	Average
1	Initial pressure	80.0 lbs.	95.0 lbs.	89.5 lbs.	
2	Final pressure	51.5 lbs.	62.5 lbs.	55.0 lbs.	
3	Decrease	28.5 lbs.	32.5 lbs.	34.5 lbs.	
4	Per cent decrease	35.65%	34.5%	38.55%	36.1%

Sample Calculations, 0 column above,

Decrease $80 - 51.5 = 28.5$ lbs.

Per cent decrease $\frac{28.5}{80.0} \times 100 = 35.65\%$

The authors wish to express their appreciation and thanks to Joseph E. Seagram and Sons, Inc., for supplying the necessary funds and much equipment for this investigation.

Ask Tony

(*Continued from page 69*) In some measure the lack of drugstore appeal to men has forced men to purchase their toiletries at tobacco stores, at the railroad station newsstand, in men's shops, and, in many cases, requested friend wife to buy shaving cream or razor blades at the grocery store.

Our Men's Needs Display was designed to help the retail druggist recover this masculine business and build up a department catering to the needs of men who buy hair preparations, razors, blades, shaving cream, combs, brushes, talcum, lotions, etc. We have succeeded and as evidence quote this statement made by an executive in a large chain drugstore organization, "I fully agree with you that the drugstore does not give the man proper attention nor do we show men's needs in our windows or on the counter often enough to let the man know he should buy his needs in a drugstore."

Another winner is that illustrated for Mum—not just a Mum Display, but a selling idea—After-the-Bath Display. A departmental idea for the druggist to feature deodorants, depilatories, lotions, manicure aids, hair brushes, combs, face creams, powders, rouge, perfumes, etc. Actually it is a multiple idea display, to sell multiple items For the Bath, After the Bath, During the Day and At Evening.

Equally important as the display itself is the method of promoting use by the retailer. We have a splendid promotion device in the Bristol-Myers *Merchandiser* magazine, published to give the druggist sales building ideas exemplified in the display offered free or if he has no need for the current display, we offer other worth while ideas to help the retailer make more customers, more sales and more profits.

Classified Advertisements

All classified advertisements payable in advance of publication. Rates: $5.00 up to sixty words; enclosed in border, $10.00 per inch. Publisher reserves the right to accept, reject or censor all classified copy.

PACKAGING EQUIPMENT WANTED: Flour manufacturer seeking used automatic equipment in good condition, for filling, sealing, gluing, etc., capable of producing over 2000 packages of flour hourly for 8 ounce packages and over. Write details. Reply Box 167, Modern Packaging.

FOR SALE: Pneumatic Scale Company 2-Station Automatic Weighing and Filling Machine. Package Machinery Company Wrappers, Models AA2, F-5, GH and others for all types and sizes of packages. World Fully Automatic Bottle and Jar Labelers. Pneumatic Scale Company 6-Head Rotary Capper. Reply UNION STANDARD EQUIPMENT COMPANY, 318 Lafayette Street, New York, N. Y.

WANTED: 2 Pneumatic Scale Company, Johnson or similar type packaging units, consisting of top and bottom sealer, and filling machines. Reply Box 168, Modern Packaging.

Advertisements in this section are restricted to those of a helpful nature. *Positions Wanted; Help Wanted; Lines Wanted; are typical categories.*

Classified Advertising Department
MODERN PACKAGING MAGAZINE
122 East 42nd Street **New York City**

INVITATION

to visit the

FIRST WARTIME PACKAGE COMPETITION

☆ All of Modern Packaging's friends are ☆ cordially invited to visit the permanent Exhibit of the outstanding military packages and consumer containers entered in the 12th Annual All-America Package Competition

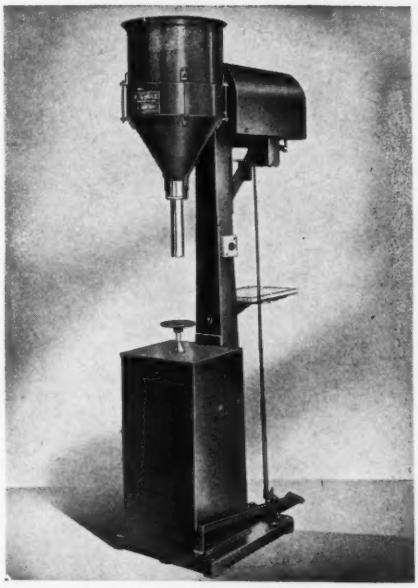
OPEN: *Monday through Friday in the offices of*

MODERN PACKAGING MAGAZINE

Suit 2601

122 East 42nd Street **New York City**

IF YOU ARE Packaging POWDERS



TRIANGLE CAN HELP YOU!

Producers of egg powders, milk powders or any similar products requiring tight, accurate packing will find Triangle Auger Packers second to none for speed, flexibility and economy. A complete range of automatic and semi-automatic equipment is available to meet any production requirements.

Triangle experience, based on hundreds of installations of equipment especially designed to package even the hardest to handle powders, will help you get the right answer for your job in a hurry.

Also a complete line of Fillers, Weighers and Carton Sealers for all dry products. Write for facts and literature today.

•

ILLUSTRATION—Model U Auger Packer. Production 15 to 30 packages per minute. Range 1 oz. to 5 lbs. One operator required. Extreme accuracy.

TRIANGLE PACKAGE MACHINERY CO.
907 NO. SPAULDING AVENUE, CHICAGO
BRANCHES IN PRINCIPAL CITIES

INDEX TO ADVERTISEMENTS

MODERN PACKAGING
BRESKIN PUBLISHING CORPORATION
122 East 42nd St. **New York City**

Postage Will be Paid By Addressee

No Postage Stamp Necessary If Mailed In the United States

BUSINESS REPLY CARD

First Class Permit No. 2656 (Sec. 510, P. L. & R.), New York, N. Y.

MODERN PACKAGING

122 East 42nd Street

NEW YORK, N. Y.

Order for NEW Subscription

Please enter my subscription to begin with the.....issue.

$5.00 for one year ☐ $8.00 for two years ☐

Remittance enclosed ☐ Send invoice ☐

Name.....

Your position (or profession).....

Company.....

Street.....

City.....*State*.....

Product Manufactured.....

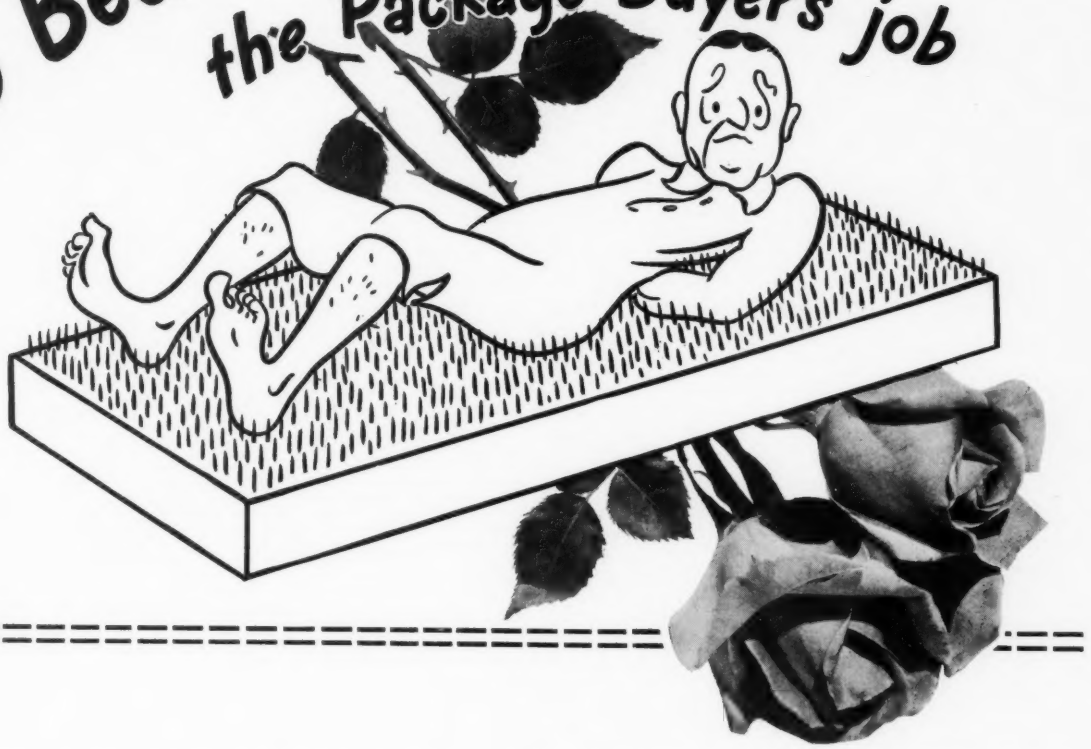
This is NOT an expiration notice

CANADA—$5.50—One Year
9.00—Two Years

FOREIGN AND SOUTH AMERICA } $6.00—One Year
10.00—Two Years

(All Subscriptions Payable in U. S. Currency or its Equivalent.)

No "Bed of Roses" the Package Buyer's job



No sir, with priorities galore, shrinking inventories and many a favored packaging material marching off to war, the package buyer really has a tough job. He could do with a little help.

And that's the reason for this ad.

We have had years of experience in the paper packaging field. Naturally, we have learned quite a bit about papermaking. We have also learned quite a bit about cartons—their many possibilities and their limitations.

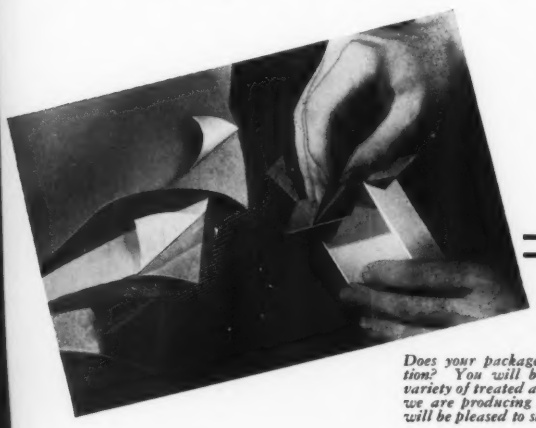
Through the years we have accumulated a lot of ideas and experience—experience which today might be useful to buyers who have never before considered folding cartons in their packaging program.

So if you are faced with the necessity of a new package, let's talk things over. Probably we can iron out a lot of the difficulties you are anticipating. Certainly our technicians have the "know how" plus resourceful thinking that's needed to see your problems through.

Manufacturers of **BOXBOARD • FOLDING CARTONS**

MICHIGAN CARTON CO.

BATTLE CREEK, MICHIGAN



Does your package require special protection? You will be interested then in the variety of treated and laminated boards that we are producing for war packagers. We will be pleased to show them to you.

Treasury Department's "Bulls Eye" Flag awarded to the Michigan Carton Co. employees —over 94% are investing 10% in War Bonds.

Packages for Rosy Cheeks—

and Sparkling Eyes

A vitamin package holds more than tablets, capsules or liquid.

It holds normal growth and strong bodies for vitamin-deficient children . . . better health for adults.

To package such precious things, vitamin makers choose trustworthy Duraglas containers. For a Duraglas package protects its contents, can be resealed against air and moisture.

To other products, too, the Duraglas technique brings the advantages of strong, lightweight, economical glass containers — a packaging improvement here today . . . for tomorrow as well. Owens-Illinois Glass Company, Toledo.

OWENS-ILLINOIS GLASS

Developers of Duraglas — The Improved Technique in Glassmaking